



Nur Diana Kholishoh¹
 Tirmidi²

THE DISCOURSE OF HUMAN – INSECT COEXISTENCE IN FRANK HERBERT'S THE GREEN BRAIN

Abstract

Frank Herbert's *The Green Brain* challenges readers to rethink the human-nature relationship. This article examines how the novel's narrative and discourse address ecological issues, using linguistic, narrative, and intertextual analysis to reveal non-human subjectivities as a counter-discourse. Using Kristeva's discourse analysis accompanied by Mandler and Johnson's story grammar and Gee's intertextual analysis techniques, it highlights how ignorance of species benefits leads to neglect. The study finds that due to the lack of knowledge on other species' benefits to humans, people tend to neglect the importance of other species' existence. It also elaborates that overpopulation sometimes forces people to exterminate others' existence.

Keywords: Novel, Species Coexistence, Discourse, Ecological Consciousness

Abstrak

Frank Herbert's *The Green Brain* menantang pembaca untuk mempertimbangkan kembali hubungan antara manusia dan alam. Artikel ini menganalisis bagaimana narasi dan diskursus novel tersebut menangani isu-isu ekologi, menggunakan analisis linguistik, naratif, dan intertekstual untuk mengungkap subjektivitas non-manusia sebagai diskursus alternatif. Dengan menggunakan analisis wacana Kristeva, disertai dengan teori gramatika cerita Mandler dan Johnson, serta teknik analisis intertekstual Gee, penelitian ini menyoroti bagaimana ketidaktahuan tentang manfaat spesies lain menyebabkan pengabaian. Studi ini menemukan bahwa karena kurangnya pengetahuan tentang manfaat spesies lain bagi manusia, orang cenderung mengabaikan pentingnya keberadaan spesies lain. Penelitian ini juga menjelaskan bahwa overpopulasi terkadang memaksa manusia untuk memusnahkan keberadaan spesies lain.

Kata kunci: Novel, Koeksistensi Spesies, Diskursus, Kesadaran Ekologis

BACKGROUND

Literature, as authentic material, plays a significant role in language teaching and the development of global knowledge. Authentic materials, such as novels, are not primarily designed for language instruction but are intended for native speakers, making them valuable resources for language learners (Mitsingas, 2015). Literature's prototypical characteristics—careful language use, literary genres, and aesthetic reading—allow it to reflect human experience and imagination (Meyer, 2018). Novels, as a prominent literary form, provide insight into emotions, relationships, and societal issues, often blending fiction with reality or drawing inspiration from historical events.

Using novels in language learning integrates reading, listening, speaking, and writing skills (Mitsigas, 2015). While teachers may initially find novels study as a challenging materials due to their language complexity and length, novels can enhance communication, motivation, and language abilities when effectively implemented. Novels can also foster behavioral change, moral, ethical, national, and cultural values internalization (Prafull et al., 2023). Reading novels, in addition also stimulates thought and interpretation, active engagement, creative learning and critical thinking (Ikhsan, 2022). These unique characteristics of novels may benefit students on their motivation, cultural enrichment, and language improvement (Mary et al., 2023).

^{1,2} University of Nurul Jadid Paiton Probolinggo
 e-mail: tirmidi@unuja.ac.id

To ease the analysis, discourse analysis as a valuable tool is presented to examine the relationship between language and society, uncovering how language constructs social realities and influences behavior (Gee, 2005). It goes beyond the text to consider extra-linguistic factors that are essential for interpreting meaning (Sherboboevna, 2020). By analyzing word choice, grammar, and rhetorical devices, discourse analysts reveal hidden meanings, ideologies, and social practices embedded in communication (Van Dijk, 2008). This interdisciplinary approach draws from linguistics, sociology, anthropology, and psychology to explore how language shapes and challenges social identities, ideologies, and public opinion (Wetherell & Potter, 1992).

Understanding a novel as a narrative involves recognizing its structure—beginning, middle, and end—and the active role of readers in interpretation (Renkema, 2004). Sociolinguistic and psycholinguistic approaches further enrich analysis by examining how language varies across social groups and situations, and how grammar and narrative structure contribute to meaning.

Intertextual analysis, as inspired by Kristeva (1980, 2024) and Gee (2005), explores how a text's meaning is shaped by its relationship with other texts, including references, allusions, and shared themes. This approach reveals the layers of meaning that arise from the interplay between works, encouraging readers to consider how stories and ideas evolve across time and culture. Intertextual analysis is particularly useful for understanding how literature engages with broader cultural and scientific conversations.

In analyzing Frank Herbert's *The Green Brain*, the researchers draw on both literary and scientific perspectives—such as Brues' (1947) work on insects and human welfare, and Zuckerman and Jefferson's (1996) insights on population and environmental crises—to explore themes of environment and coexistence. The novel serves as a cautionary tale, highlighting the dangers of unchecked human ambition and the intelligence of non-human life. It urges readers to reflect on humanity's impact on the environment.

The choice of *The Green Brain* is motivated by ongoing environmental crises, human greed, and the urgent need for ecological consciousness. The paper uses species coexistence theory to examine mechanisms that maintain ecological balance (Hallett et al., 2023; Dobson, 2020). Nature's balance is maintained through competition, adaptation, and cooperation among species, but this harmony is fragile and easily disrupted by human actions. Recent studies emphasize proactive strategies for human-wildlife coexistence and the importance of integrating ecological, social, and evolutionary approaches for conservation (Glikman et al., 2023; Pinsky, 2019).

Ultimately, *The Green Brain* reflects future condition where nature retaliates against human dominance and raises critical questions about the novel's themes and humanity's neglect of other species. The research underscores the importance of discourse in shaping perceptions and policies toward non-human life, urging readers to reconsider their relationship with the planet.

METHOD

Environmental science demands an interdisciplinary approach to address the planet's complex challenges. This research integrates principles from ecology, climatology, and social science to explore the impact of human activities on forest ecosystems. By adopting a multi-pronged strategy, the study aims at gaining comprehensive understanding of how human behavior contributes to environmental degradation. This approach aligns with Gee's (2005) definition of discourse analysis, which examines language in social contexts, and Renkema's (2004) recommendation to use Mandler and Johnson's story structure paradigm for analyzing narrative writing.

This study employs Mandler and Johnson's theoretical framework to investigate the novel's narrative structure, characters, and plot. Through detailed examination, it uncovers the complexities of the novel's setting and key events, facilitating a deeper grasp of the main storyline. The research also thoroughly dissects the discourse on coexistence, applying Kristeva's (1980, 2024) concept of intertextuality—analyzing how different texts intersect and influence each other—alongside Gee's methods. The intertextual approach systematically

explores the language of other species within the novel, referencing relevant theories and prior research to clarify ambiguities in Frank Herbert's *The Green Brain*.

Data collection is a critical step in any research (Paradis et al., 2016), and this study utilizes the read-and-note method. The entire novel is read, with pertinent details about the theoretical framework recorded. Data consists of words, sentences, and paragraphs from the text, ensuring accuracy through thorough documentation.

After note-taking and categorization, the data is described and analyzed. Two analytical techniques are used: suprasegmental analysis and intertextual analysis. Suprasegmental analysis focuses on story grammar to reveal textual shortcomings, while intertextual analysis highlights connections between texts, demonstrating how meaning is constructed through dialogue between different works.

RESULTS AND DISCUSSION

As been questioned in the previous part, here are the answers about the theme of the novel. In this section, the researchers use psycholinguistic analysis to discover the theme, which consists of a synopsis, a simple story, or a short narrative, and a psycholinguistic diagram. And here is the general outlook of the novel.

In the depths of the Amazon rainforest, scientists divide the world into the Red Zone (insect territory) and the Green Zone (human territory), seeking to expand their control. On one fine day, an insect infiltrates the Green Zone by disguising itself as a human, while rumors of giant mutants lead the IEO to investigate. The local people, Joao Martinho and his team, have a battle with a giant insect, but it escapes, and Brain, the insect leader, observes humans are desiring communication over war. As time has passed by, Joao's father is killed by the insect, and Joao, stranded with the IEO, faces accusations and dwindling supplies as Brain's forces attack. In an urgent situation, rather than succumbing to despair, João finds himself entering a visionary dimension, where Brain proposes coexistence, reminding him of humanity's past harmony with nature. Though Joao hesitates, Brain spares him, offering a chance for peace instead of destruction. At the end, the story concludes ambiguously – with Joao surviving, but the future of human-insect relations is still uncertain.

From the story grammar above, the researchers find that the novel carries a strong environmental message, emphasizing the interconnectedness of humans, insects, and the natural world. The narrative highlights how human actions—such as deforestation, pesticide use, and urbanization—disrupt ecosystems, ultimately harming both insects and the environment. Through its characters and plot, the novel underscores the consequences of ignoring this delicate relationship, urging readers to reconsider their impact on nature. The story advocates for greater awareness and sustainable coexistence with the planet's smallest yet most vital creatures by weaving together human behavior, insect survival, and environmental health.

To answer the second research question, the researchers use intertextual analysis and takes some dialogues that reflect species coexistence based on the concept brought by Brues (1947) and Zuckerman and Jefferson's (1995). The researchers find that humans do not know the important roles of insects in their lives. Insects are so essential for pollination, decomposition, and as food for other animals that without them, agriculture, food chains, and waste breakdown would collapse. This vital role in biodiversity and food security is often ignored as reflected in the use of harmful pesticide use and resulting habitat loss.

What makes humans unaware of insects' crucial roles in their daily lives? The researchers find that many humans perceive insects primarily as disease carriers and a threat to public health. Common associations link insects like mosquitoes, flies, and cockroaches to the spread of illnesses such as malaria, dengue, and food contamination. This negative perception often overshadows the ecological benefits insects provide, leading to widespread fear, aversion, and aggressive eradication efforts. As Joao said to the father:

"They're very watchful for sickness in the newly Green, you know. There've been epidemics . . . and that's another thing."

"There's no relationship," his father snapped. "Without insects to carry diseases, we'll have less illness." (page 68)

From Joao and his father's dialogue above we know certain insect may be the cause of increased transmission of diseases. This could result in epidemics or pandemics, posing significant threats to human health. The passage "They're very watchful for sickness in the newly Green" Exactly a metaphor of human fears of insects which spread disease. Joao is closely monitoring new arrivals or recent converts to the "Green" area for signs of illness. He also added "There have been epidemics and that's another thing." This reflects past disease outbreaks that occurred among the "newly Green" population, explaining the heightened vigilance and the health issue is being added to a list of problems or concerns. While Joao's father believes after the world has eliminated insects will reduce disease transmission. The father's logic ("Without insects...we'll have less illness") represents dramatic irony common in dystopian literature—the audience understands what the character cannot: that eliminating insects has actually caused the epidemics, not prevented them. This dialogue echoes classic ecological dystopian works like Rachel Carson's *Silent Spring* (1962) and science fiction novels that explore the unintended consequences of environmental manipulation.

The use of powerful insecticides to eradicate insects has resulted environmental contamination. These chemicals can harm human health, causing various illnesses and disorders. Insects can act as vectors, transmitting harmful pathogens that cause a variety of diseases in humans and animals. It is supported by Al-Osaimi statement (2024) that these diseases, caused by parasites, bacteria, or viruses, account for over 700,000 annual deaths, constituting more than 17% of infectious disease-related fatalities. And this is why the hyper-evolved insects start resisting human attempts at pest control, leading to ecological disruptions that threaten agriculture, infrastructure, and human survival.

"killed off the weak and selected out those immune to this threat from humans. Only the immune remained to breed."(page 70).

Joao's explanation directly echoes Darwin's *On the Origin of Species* (1859) and scientific literature on natural selection. The phrase "killed off the weak and selected out those immune" uses precise evolutionary terminology, connecting to works like H.G. Wells' scientific romances that explore survival of the fittest in technological contexts. The passage also mirrors to Rachel Carson's *Silent Spring* (1962) and environmental literature documenting how DDT and other pesticides create "super-bugs." Where the phrase "killed off the weak...Only the immune remained to breed" directly references real scientific studies on pesticide resistance that became prominent in 1960s environmental writing.

Despite insects being considered to pose significant threats to human health, insects holds an important role in food supply, either as food and feed for the sustainable future of other species existence including humans. As global population increases and climate change impacts agricultural productivity, food shortages are becoming a growing concern. Insects offer a promising solution to this challenge due to their high efficiency which means insects have a much higher feed conversion ratio than traditional livestock, which means they can produce more protein with less feed. Insects offer a sustainable and nutritious alternative to traditional livestock. Insects provide food at low environmental cost, contribute positively to livelihoods, and play a fundamental role in nature (Pj et al., 2015). Yet, many insect species are considered pests due to their ability to damage crops and reduce yields. Insects can pose significant challenges to agricultural production.

"We'll shape bees to meet whatever need we find. The destroyers take food from our mouths. It's very simple. They must die and be replaced by creatures which serve a function useful to man."

"Some plants already have disappeared from lack of natural pollination." "No useful plant has been lost!".(page 65)

As Joao said to the father, "Some plants already have disappeared from lack of natural pollination." Where this sentence represents the immediate threat to food production when natural pollinators (insects) are eliminated. While the father's dismissive response "No useful plant has been lost!" leads to dangerous denial about agricultural sustainability and this is one of fears that threatened humans later. Another phrase from Joao's father plan to "shape bees to meet whatever need we find" shows awareness that food production depends on pollination, but

reflects technological hubris about replacing natural systems. This connects to real concerns about colony collapse disorder and agricultural dependency on pollinators.

Food relations also intersect with forest, where it becomes the natural food supply place. By clearing the forest, where the insects live, the insect could somehow rebel by evolving camouflage to evade detection. As shown in Northern Hemisphere, beetle erupts the population outbreaks under suitable environmental conditions, resulting large-scale tree death. While in a race to adapt to the global warming, insects are usually assumed to win over trees and signs of devastating heat effects on forest due to insect outbreaks (Jactel et al., 2019).

"Those are like the insect we saw inside, Father -- millions of them. They are attacking. Perhaps they're not beetles after all. Perhaps they're like army ants. We must make it to the truck. I have equipment and supplies there to fight them off. We'll be safe in the truck. It's a bandeirante truck, Father." (page 74)

The phrase "millions of them" and "They are attacking" describes classic forest insect swarm behavior. Many forest species - from army ants to certain beetles to termite alates - exhibit mass emergence or coordinated attack patterns that overwhelm their environment. Compared to "army ants" - these are quintessential forest insects known for their aggressive swarming behavior in tropical rainforests. Army ants (*Eciton* species) form massive columns that can strip forest floors of other insects and small animals, making them a feared forest phenomenon. The need for specialized "equipment and supplies" and the urgency of reaching a "bandeirante truck" (bandeirantes were Brazilian forest explorers) situates this firmly in a forest or jungle survival scenario where insect swarms pose genuine lethal threats to humans.

The correlation between insect and forest here represents a fundamental ecological disruption where normal predator-prey and habitat relationships have broken down, creating conditions where the forest becomes defined by its most destructive inhabitants rather than its life-sustaining properties.

"We could shape mutated bees to fill every gap in the insect ecology. It was a . . . Great Crusade. This I believed. Like the people of China, I said: 'Only the useful shall live!'" (page 64)

The "mutated bees" project, recalling *Frankenstein*, warns against overconfident technological intervention in nature, highlighting how such efforts often backfire, echoing Shelley's and Carson's warnings. The principle "Only the useful shall live!" draws disturbing parallels between insect control, Nazi eugenics, and ecological harm, emphasizing how scientific language can mask violence and the unintended consequences of disrupting natural systems.

The relationship between humans and insects is complex that is marked by both coexistence and conflict. While insects can be beneficial, many are considered pests or parasites, especially in homes where they damage property or bite and sting as a defense. Human environments attract insects, blending our lives together, but this also leads to irritation and occasional harm, highlighting the dual nature of our interaction. They play a pivotal role in shaping and responding to their ecosystems, and their evolutionary trajectories are closely linked to changes in environments—with recent studies showing that even rapid deforestation can trigger dramatic evolutionary shifts, such as the loss of flight in certain insect populations

"And it set itself the problem of a slight gene alteration in a wingless wasp to improve on the oxygen generation system. (page 59)"

The phrase echoes classic science fiction tropes about directed evolution and genetic manipulation, particularly found in works like Frank Herbert's *Dune* series or Ursula K. Le Guin's *The Dispossessed*. The clinical, almost detached tone ("it set itself the problem") suggests an artificial intelligence or advanced biological system making calculated improvements to life forms, a common theme in cyberpunk and post-humanist fiction. And the focus on oxygen generation connects to environmental writing traditions, particularly works concerned with atmospheric change and species adaptation. The wasp, typically seen as a minor or even pest species, becomes central to planetary survival, subverting anthropocentric hierarchies found in much nature writing. It shows that insects can be dangerous when they evolve to something we can not even imagine.

“The brain knew what had set its cohorts into motion: guarding the precious-core of the hive was an instinct rooted in species survival.(page 59)”

The text draws heavily from the established science fiction tradition of hive minds. The "brain" as a central consciousness directing "cohorts" follows this familiar pattern, but the passage introduces a crucial tension: the brain recognizes the limitations of its collective structure. It recognizes that rigid, instinct-based responses ("guarding the precious-core") that once ensured survival are now limiting the collective's ability to adapt to new situations. This is essentially describing the emergence of self-reflective consciousness within what was previously an automatic system. The brain realizes that true intelligence requires flexibility—the ability to evaluate each situation uniquely rather than applying predetermined responses. When it happens, it could evolve beyond human comprehension or control, potentially viewing humanity as an obstacle to its new, more flexible existence.

The paradoxical relationship between humans and insects is marked by both destructive competition and mutual dependence, as pesticide resistance and the collapse of beneficial insect populations destabilize ecosystems, fuel reliance on industrial agriculture, and create a dangerous feedback loop in which both sides suffer.

The sentence "And what about the insects?" (page 173) structures mirrors the terse, anxious questioning found in disaster narratives, the phrase "And what about..." suggests previous discussion of multiple crises, with insects representing either an additional threat or a forgotten element in catastrophe planning. This connects to works like Rachel Carson's *Silent Spring* (1962), where the question "what about the birds?" revealed devastating ecological consequences. The phrasing suggests insects have been marginalized in whatever larger discussion is occurring, demanding recognition of their agency or importance. The simplicity of "the insects" becomes ominous through understatement—they're not "some insects" or "those insects," but "THE insects," suggesting a known, significant presence. The question also suggests that insects deserve consideration as actors in whatever crisis is unfolding, not merely as background or nuisance.

Insects have coexisted with humans for millennia, and they are playing vital roles in our ecosystems and economies. However, their populations are declining at an alarming rate, raising concerns about the future of our planet. A world without insects would be a drastically different and far less hospitable place for humans. Ecological collapse, such as a pollination crisis, disrupted food chains, and nutrient cycling breakdown, will be a basic urgent need that should be handled significantly. Herbert perfectly showed us what will happen when the world collapses and turns humans into their actions.

“They weren't Indians . . . they weren't even humans. They were insects -- some kind of hive-cluster shaped and organized to mimic a man.” (page 81)

The phrase "They weren't Indians" directly invokes the historical pattern of European colonizers misidentifying and dehumanizing native populations. The progression from "Indians" to "not even humans" to "insects" mirrors the rhetorical strategies used to justify colonial violence throughout history. The insect metaphor specifically calls back to Franz Kafka's *The Metamorphosis* (1915), but inverts its meaning. A world without insects would be catastrophic for both nature and humanity, while a world without humans would allow the planet to heal; however, if we continue destroying nature, we risk ecological blowback, insect-driven collapse, and the breakdown of civilization.

Another reason why humans neglected the existence of insects is impacted by overpopulation. Population growth is at the heart of fundamental processes in cell biology, evolution, and ecology, from the expansion of bacteria colonies and a large scale animal populations to the propagation of an advantageous mutation (Marrec et al., 2023). The rapid expansion of the human population poses a significant threat to the environment. As human population increases, so do the activities that degrade insect habitats and reduce their numbers. This results in a cycle where insects are neglected, their ecological roles undervalued, and their decline accelerated—ultimately threatening the stability of ecosystems and human well-being.

“Time was the thing now -- some twenty days to gather new energy, go through the metamorphosis and disperse. Soon there'd be thousands of him -- each with its carefully mimicked clothing and identification papers, each with this appearance of humanity. (page 9)”

Here is what already happen, human population growth exerts significant pressure on the biosphere and influences human behaviour in complex ways. Population growth presents a complex set of challenges with far-reaching implications for societies and the environment. The text ultimately presents population growth as both mechanical and deceptive - each new entity is identical yet disguised, creating a paradox where demographic expansion occurs through replication rather than reproduction. This speaks to deeper cultural anxieties about authenticity and belonging within rapidly changing population compositions.

In addition, the novel warns that human greed—expressed through pesticides, genetic engineering, and deforestation—may trigger unpredictable consequences as rapidly evolving insects expose our hubris and prove nature can't be tamed. If we don't change, the biosphere may evolve beyond us, even toward insect dominance, echoing Deep Ecology's view that Earth doesn't need humans, but we need the Earth. The notion of respect toward nature and natural entities could thus serve as an open horizon to be characterized in different contexts and by different publics and cultures to shape a new relationship with nature, sustainable for both human and nonhuman (Martin et al., 2016).

CONCLUSION

The research demonstrated that the environmental theme of the novel can be effectively extracted through a psycholinguistic approach lens; examining the synopsis, a streamlined story summary, and illustrative diagrams. This method enhances readability, enabling audiences to absorb major themes efficiently. Moreover, the diagrams provide a clear breakdown of the storyline and character interactions.

And from the intertextual analysis, the researchers found that humans cannot dominate the world on their own because other species living are needed for a sustainable future. When they are eradicated, the ecosystems will collapse, causing many more unsolved problems on the Earth. Ultimately, human neglect of other species stems from the failure to recognize that our survival is deeply interconnected with theirs—when we harm nature, we do harm ourselves. The intricate relationship between humans and biodiversity is rooted in the diverse species and functional groups that coexist with us, providing essential ecosystem services vital for our survival and well-being.

RECOMMENDATIONS

Based on some findings identified in this study, it is recommended that future research on sustainable coexistence with insect populations must replace attempts at total eradication. Rather than viewing insects solely as a pests, humanity should recognize their essential ecological roles, such as pollination and maintaining biodiversity, and work to protect and integrate insect life within environmental management practices that includes developing agricultural and land-use policies that preserve insect ecosystems, and fostering mindset that values the interconnectedness of all species to ensure long-term planetary health and food security.

REFERENCES

Al-Osaimi, H. M., Kanan, M., Marghlani, L., Al-Rowaili, B., Albalawi, R., Saad, A., Alasmari, S., Althobaiti, K., Alhulaili, Z., Alanzi, A., Alqarni, R., Alsofiyani, R., & Shrwani, R. (2024). A systematic review on malaria and dengue vaccines for the effective management of these mosquito borne diseases: Improving public health. In *Human Vaccines and Immunotherapeutics* (Vol. 20, Issue 1). Taylor and Francis Ltd. <https://doi.org/10.1080/21645515.2024.2337985>

- Aziza Sherboboevna student, K., & State World, U. (2020). The Concept of Discourse and its Definition. *International Journal of Progressive Sciences and Technologies (IJPSAT)*, 20(2), 126–128. <http://ijpsat.ijsh-t-journals.org>
- Glikman, J. A., Frank, B., D'Amico, D., Boitani, L., & Ciucci, P. (2023). Sharing land with bears: Insights toward effective coexistence. *Journal for Nature Conservation*, 74. <https://doi.org/10.1016/j.jnc.2023.126421>
- Hallett, L. M., Aoyama, L., Barabás, G., Gilbert, B., Larios, L., Shackelford, N., Werner, C. M., Godoy, O., Ladouceur, E. R., Lucero, J. E., Weiss-Lehman, C. P., Chase, J. M., Chu, C., Harpole, W. S., Mayfield, M. M., Faist, A. M., & Shoemaker, L. G. (2023). Restoration ecology through the lens of coexistence theory. In *Trends in Ecology and Evolution* (Vol. 38, Issue 11, pp. 1085–1096). Elsevier Ltd. <https://doi.org/10.1016/j.tree.2023.06.004>
- Ikhsan, K. N. (2022). Sarana Pembelajaran untuk Meningkatkan Hasil Belajar. *ACADEMIA : Jurnal Inovasi Riset Akademik*, Vol 2. No 3, 1.
- Jactel, H., Koricheva, J., & Castagnyrol, B. (2019). Responses of forest insect pests to climate change: not so simple. In *Current Opinion in Insect Science* (Vol. 35, pp. 103–108). Elsevier Inc. <https://doi.org/10.1016/j.cois.2019.07.010>
- Marrec, L., Bank, C., & Bertrand, T. (2023). Solving the stochastic dynamics of population growth. *Ecology and Evolution*, 13(8). <https://doi.org/10.1002/ece3.10295>
- Martin, J. L., Maris, V., & Simberloff, D. S. (2016). The need to respect nature and its limits challenges society and conservation science. *Proceedings of the National Academy of Sciences of the United States of America*, 113(22), 6105–6112. <https://doi.org/10.1073/pnas.1525003113>
- Mary, Nuemaihom, A., & Intanoo, K. (2023). Using Novels in the Language Classroom. *World Journal of English Language*, 13(5), 26–32. <https://doi.org/10.5430/wjel.v13n5p26>
- Meyer, J. (2018). What is Literature? A Definition Based on Prototypes. *Work Papers of the Summer Institute of Linguistics, University of North Dakota Session*, 41(1). <https://doi.org/10.31356/silwp.vol41.03>
- Neophytos Mitsigkas. (2015). Using Novels in English Language Teaching in Cyprus Neophytos Mitsigkas.
- Neophytos Mitsingas. (2015). Using Literature as a Key Determinant to Enhance Learners' Motivation Neophytos Mitsingas, UK and Cyprus.
- Paradis, E., O'Brien, B., Nimmon, L., Bandiera, G., & Martimianakis, M. A. T. (2016). Design: Selection of Data Collection Methods. *Journal of Graduate Medical Education*, 8(2), 263–264. <https://doi.org/10.4300/JGME-D-16-00098.1>
- Pinsky, M. L. (2019). Species coexistence through competition and rapid evolution. In *Proceedings of the National Academy of Sciences of the United States of America* (Vol. 116, Issue 7, pp. 2407–2409). National Academy of Sciences. <https://doi.org/10.1073/pnas.1822091116>
- Pj, A., Ko, F., Osekre E, & Obeng-Ofori. (2015). Insects as food and feed: A review. In *International Journal of Agricultural Research and Review* (Vol. 3, Issue 1).
- Prafull, M., Kose, A., Abhijit, D., Aney, R., Mahavidyalaya, T., & Tilak, L. (2023). Purpose, Strategies and Technique of Teaching English Novel. www.ijfmr.com