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SUSTAINABLE COMMUNICATION FROM A BIOSEMIOTIC PERSPECTIVE

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Abstract: The present research aims at conducting a theoretical analysis of the fundamental concepts proposed by biosemiotics, while highlighting the ways in which an accurate understanding of these ideas may benefit educators and their students as members who partake in the communicative academic community. Thus, by acquiring ecolinguistic and biosemiotic skills designed for perceiving and understanding the world ecologically, learners may become adept at decoding complex meaning-making systems by co-participating in a sustainable and ecosystemic culture. At the crossroads between ecolinguistics and ecosemiotic methodologies, ecological thinking has recently been widened from the natural and life sciences towards the humanities with a view to developing a more encompassing "ecology of mind". Thus, the paper inquires into the relevance of developing a holistic communicative framework, based on meeting points between humanistic sciences, life sciences, and biosemiotics, which reinforces sustainable educational practices. The prevailing lines of research coming into junction from these intersecting fields underlying our study highlight systems thinking and other holistic aspects of communication extended far beyond the formal aspects of classical linguistic structuralism. Therefore, we propose that updated language learning practices and other processes pertaining to language interaction be supported by meaningful exchange and a genuine sense of shared meaning.

• Introduction

- This paper will interrogate whether biosemiotic models as variously formulated in the literature, are relevant to support communication and language learning in academic settings. This premise also serves as the basis for our distinctive pedagogical outlook on ESP (English for Specific Purposes – English for the Life Sciences, especially Biology, Genetics, and Biotechnologies).

- The inquiry aims at verifying the prevalence of semiotic relationships throughout nature and culture, that is – the "semiosphere" (KOTOV and KULL, 2011; LOTMAN, 2005). As shown by biosemiotics, semiotic interaction takes place not only on linguistic levels, but across all domains of life, not reducible to cultural interactions (HOFFMEYER, 1996). From this perspective, biology may be seen as a science at the interface between physics and semiotics, studying "the origin and evolution of sign processes, semiosis" (HOFFMEYER, 1997:363).

- This foundational approach to biosemiotics has prompted a "cognitive turn" in biology, inspired by methods from the humanities, as life is characterized by sign relations, just like texts.

- In order to answer the question "How can the study of the humanities inform the study of biosemiotics?", Favareau (2017) proposes an ethnomethodology which highlights the complex interrelationships between sign systems belonging to the linguistic or cultural segment, which function in analogy to those of cells and organisms. To better understand the language in which "the book of nature" is written (WHEELER in FAVAREAU, 2017), we need more holistic mindsets and collaborative methodologies from several disciplines.

- Researchers interested in sign phenomena from across the humanities, working in fields such as cultural studies, literature, linguistics, psychology and other social sciences are now included in the wider "community of biosemioticians", along with those in the life (biological) sciences. However, the point is made that the latter "need the humanities in order to be able to see beyond its own conceptual limitations, just as the humanities need the sciences for the same reason" (FAVAREAU, 2017:14).

• Material and method

- The study is supported by the methodology of sustainable education relying on the ecolinguistic approach to propose a holistic model of communication and language learning (BOGUSŁAWSKA-TAFELSKA, 2016; STONE and BARLOW, 2005; VAN LIER, 2004).
- This methodology also highlights the relevance of acquiring and sustainable communication competences in the context of "ecological English" classes (DRAGOESCU URLICA, 2022).

• Results and discussions

- The acquisition of ecological literacy and other ecolinguistic competences are made available to students in the Life Sciences by means of including biosemiotic terminology in their curricular background. For this purpose, students in the life sciences (in this case, biology, biotechnologies, genetic engineering, etc.) are encouraged to become familiarized with the terminology of biosemiotics and the interconnections between biology, cultural (meta)text and communication.

- By scrutinizing the broadening terminology of contemporary biosemiotics, it appears that it fundamentally "assumes that any innovation, and any biological process, stands on a communicative event, describable in semiotic terms, i.e. terms like interpretation, translation, dialogue", which implies the communicative or dialogic nature of life (KULL, 1998).

- Given the two premises that semiotics is the study of signs and meaning relations and that semiosis is coextensive with the living, biosemioticians have reviewed the laws of biology in analogy with the rules of the functioning of texts. Therefore, semiotic terminology revolving around meaning, message, text, dialogue, and translation, much like that of biology and molecular genetics, has engendered a cross-fertilizing reservoir of ideas between the cultural sphere, the language of natural sciences, and the discourse of arts and humanities.

• Conclusions

The study aims at integrating ESP students' language learning within cultural discourse relevant to their field of study (the Life Sciences). The innovative ideas proposed by biosemiotic discourse investigated in the present study support the overarching pedagogical enterprise and our ecological learning goals.

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