World Journal of Educational Research
ISSN 2375-9771 (Print) ISSN 2333-5998 (Online)
Vol. 12, No. 6, 2025
www.scholink.org/ojs/index.php/wjer

Original Paper

Analysis of the Research Path of Foreign Language Teaching from the Perspective of Ecological Linguistics

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Received: August 22, 2025 Accepted: October 24, 2025 Online Published: November 13, 2025

doi:10.22158/wjer.v12n6p41 URL: http://dx.doi.org/10.22158/wjer.v12n6p41

Abstract

This study constructs a foreign language teaching framework based on ecolinguistic theory. In the context of contemporary globalized education, traditional English teaching models show ecological imbalance issues. To address this challenge, the research reviews the developmental trajectory of ecolinguistic theory, commencing from Haugen's concept of "language ecology" and extending to Halliday et al.'s critical research paradigm. Building upon theoretical exploration, this study extensively incorporates research achievements from Chinese scholars, proposing an operational research pathway, including holism, dynamism, interaction and situatedness. Through systematic methodological construction, the study provides innovative approaches for diagnosing practical issues in foreign language teaching. Simultaneously, it offers practical solutions for establishing a sustainable foreign language teaching ecosystem.

Keywords

ecolinguistics, foreign language teaching, teaching ecosystem, research framework, ecological principles

1. Introduction

With the rapid development of globalization and informatization, English has become the main tool for international communication, and its status in China's colleges and universities is increasingly prominent. However, the limitations of the traditional English teaching model, such as ignoring individual differences among students, the dynamic changes in the learning environment, and the close connection between language and cultural ecology, have led to unsatisfactory teaching results. To address the aforementioned issues, this research takes an eco-linguistic perspective to re-examine the urgent problems such as sustainable development in foreign language teaching, and to re-consider foreign language teaching as a "life form" (Halliday, 1990) rather than a self-sufficient symbolic

system in the traditional sense. It pays more attention to the specific social environment, closely integrating survival and development with the environment, and identifying and solving problems in practice (Huang, 2016; Stibbe, 2015). It fundamentally transforms the teaching concept to achieve the harmonious construction of the English teaching ecosystem, shifting the traditional educational and teaching indoctrination approach to cultivating students' ability to independently solve real problems, and creating an educational ecology that promotes full inter-subject interaction, efficient resource circulation and adaptive development (Gu, 20225).

Grounded in this paradigm, the present study systematically reviews relevant domestic and international theories, aiming to lay comprehensive theoretical groundwork for subsequent development of an English teaching ecological model tailored for Chinese vocational undergraduate institutions.

2. The Theoretical Development of Ecolinguistics

The rise of ecolinguistics stems from scholars' profound insights into the complex relationship between language and the environment. It can be summarized into three stages: origin, development, and systematization.

2.1 Theoretical Origins

The conceptual origins of ecolinguistics can be traced back to the pioneering research of American linguist Einar Haugen. In 1972, Haugen, in a seminal report entitled -The Ecology of Language - first drew an analogy between the relationship of a language and its social environment and the ecological relationship between biological species and their natural habitats.

He explicitly articulated that the vitality of a particular language is inextricably linked to its social environment, much like how plant growth requires suitable soil, sunlight, and water. Haugen further proposed that studying the "ecology" of a language entails examining its interactions with other species (i.e., other languages) and its environment (i.e., the society that uses it) (Haugen, 1972). This insight laid the cornerstone for subsequent research, emphasizing that a language cannot be understood in isolation from its living environment.

2.2 Theoretical Development

Following Haugen’s study, the field of ecolinguistics gradually split into two distinct research paths. The initial research mainly focused on inheriting and developing Haugen's paradigm, studying language diversity, language policy, and the endangered status of languages based on its metaphorical framework. Among them, scholars such as Baker, through exploration of this framework, pointed out that ecolinguistics should pay attention to the functions and survival status of languages in specific social and cultural environments (Baker, 1973). Meanwhile, Bang and Doll advanced the research on Haugen's paradigm, advocating that language studies must consider the overall, dynamic, and situational interaction between language and its environment, providing important theoretical support for the ecological approach in language teaching research (Bang & Doll, 1993).

Meanwhile, M.A.K. Halliday, the founder of Systemic Functional Linguistics, opened up a critical path for Ecolinguistics. At the 1990 Applied Linguistics Conference, he raised a key question: Does the way language grows contribute to the environmental crisis? (Halliday, 1990). He no longer regarded ecology simply as the external environment of language, but turned to critically examine how the language system itself constructs the relationship between humans and nature through its grammar and vocabulary.

Halliday pointed out that the grammatical features commonly found in Western languages, such as the nominalization of non-countable resources (like water and air) as countable commodities, and the excessive use of material and behavioral processes to describe human plundering of nature, all imperceptibly encode and reinforce the anti-ecological ideology of anthropocentrism and infinite growth (Halliday, 1990). This critical perspective leads linguists to the responsibility of revealing and deconstructing the ecologically destructive factors in discourse.

2.3 Theoretical Systematization

With the continuous development of the theory of ecolinguistics, its core principle system has become increasingly mature. In his representative work ***Ecolinguistics: Language, Ecology and the Stories of Our Lives***, Stibbe first systematically sorted out the principle system and analytical methods of this theory (Stibbe, 2015), laying the theoretical foundation for ecological discourse analysis. Inspired by this theory, some domestic foreign language teaching researchers (such as Chen Jianlin (2006), Huang Guowen (2016), etc.) gradually realized that the above core principles not only provide effective analytical tools for diagnosing the imbalance of the traditional foreign language teaching system, but also offer important evaluation criteria for the reconstruction of the teaching system. These principles are the principle of holism, the principle of dynamics, the principle of interaction and the principle of situatedness.

The principle of holism regards the teaching process as an inseparable whole, criticizing the isolated and fragmented teaching model. It emphasizes that teachers, students, the environment and technology have a symbiotic relationship (Bang & Doll, 1993; Chen, 2006), and all parts within an organic whole must coexist harmoniously.

The principle of dynamism focuses on the self-renewal capacity of the educational system, maintaining that the teaching system should undergo continuous dynamic adjustments in response to changes in students' needs and the progress of social development. There is no unchanging teaching system; the only constant is change itself. A dynamic ecological balance must always be maintained within the teaching system.

The principle of interactivity focuses on the flow of information during the teaching process, advocating a thorough examination of multiple interactive behaviors both inside and outside the classroom, including key aspects such as teacher-student dialogue and human-computer interaction.

The situational principle emphasizes the deep integration of teaching with real contexts, requiring the combination of foreign language teaching with learners' professional backgrounds and cultural

environments (Gu, 2005).

It is worth noting that these four principles collectively form a complete diagnostic framework, which provide a three-dimensional analytical perspective for the assessment of the foreign language teaching ecosystem from four dimensions.

3. The Integration Path of Ecological Linguistics and Foreign Language Teaching

3.1 Application of Educational Ecology Principles in Classroom Environment

Chinese scholar Wenxin Guan introduced ecological principles into the field of education, examining the construction of classroom ecosystems from a macro perspective. He proposed the "Law of Limiting Factors" in educational ecology, positing that the absence or excess of key factors within an ecosystem can constrain its overall development.

Guan believed that traditional teaching methods, characterized by uniform textbooks and teaching schedules, ignored the individual differences in students' language proficiency. As a result, for some students, the content input in foreign language teaching became incomprehensible "noise". Prolonged exposure to such an environment would completely extinguish students' interest in learning. Therefore, the primary task of instructional design is to diagnose and eliminate these "limiting factors". By implementing stratified tasks and multimodal input methods, it is ensured that each student receives effective language input at their "i+1" level, which is crucial for maintaining the vitality of the classroom teaching ecosystem (Guan, 2003).

3.2 The Construction of the Ecological Model of Online Education

Yueguo Gu extended the ecological perspective to the burgeoning field of online education, foreseeing that information technology would become an indispensable "ecological environment" in the educational ecosystem. The network education ecology model he constructed emphasizes that the network is not a cold tool but an ecological niche filled with various symbolic resources, social interactions, and meaning negotiations. Learners construct meaning through interaction in this environment.

From the perspective of Systemic Functional Linguistics, the network environment greatly expands the range of registers in language use. The task of teachers is to design authentic online communication tasks (such as forum discussions, collaborative writing, role-playing), guiding students to flexibly apply the conceptual, interpersonal, and textual functions of language in different virtual contexts to complete meaning negotiations. At this point, the relationship between the technological environment and language learning is no longer an "auxiliary" one but a symbiotic one: technology provides new contexts, and language learning is deepened in the process of adapting to these new contexts (Gu, 2005).

3.3 The Ecological Integration of Computer Technology and Foreign Language Courses

Based on the specific research of Gu Yueguo's theory, Chen Jianlin criticized the limitations of the concept of "computer-assisted instruction" and proposed the core idea of "ecological integration". He

believes that computer networks should not be regarded as external and separable "auxiliary" means, but should be organically integrated into the overall ecosystem of foreign language courses like air and water.

This integration has completely transformed the essence of language learning. For instance, when students conduct inquiry-based learning through search engines and corpora, what they come into contact with is no longer carefully edited and pure language samples, but real and complex natural language. This process itself is an important linguistic ability - the cultivation of discourse discrimination and information screening capabilities. Here, technology is no longer merely a player for presenting language, but has become the habitat where language itself exists and the object through which learners interact. Courses, teachers, students and technology thus form an inseparable and unified whole (Chen, 2006).

3.4 Design of Ecological Classroom Model

Senlin Liu transformed theory into an operational classroom teaching model to optimize interpersonal interaction within the classroom. The ecological classroom model he proposed aims to create a democratic, harmonious, and interactive classroom environment, emphasizing equal dialogue and meaning negotiation between teachers and students as well as among students. From the perspective of discourse analysis, in the traditional classroom interaction IRF (Initiation-Response-Feedback) model, the teacher's final feedback is often an evaluative closing statement. In contrast, the ecological classroom pursues developmental discourse, where the teacher's feedback is guiding and exploratory, aiming to promote the continuous deepening of discourse and thinking. This model can generate more synergy through interactive communication, and learners can also make timely adjustments to their language output during the communication process, transforming it into more accurate and idiomatic language forms, thereby achieving a common improvement in language proficiency (Liu, 2008).

4. The Construction of Research Approaches for the Foreign Language Teaching Ecosystem

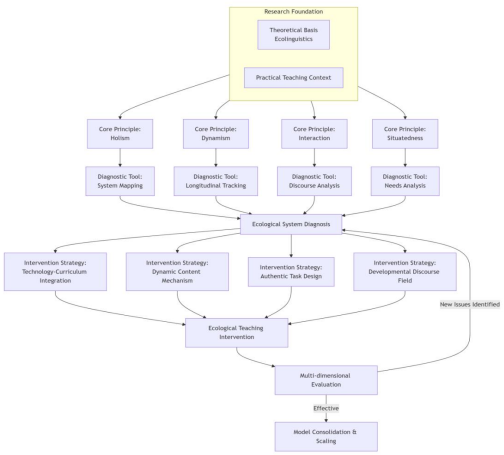

Figure 1. A Framework for Research on the Foreign Language Teaching Ecosystem

This analytical framework shows a research pathway for foreign language teaching ecosystem development, which originates from a dual research foundation encompassing theoretical basis in ecolinguistics and practical teaching context considerations.

4.1 Core Ecological Principles and Their Diagnostic Methodologies

4.1.1 Holism

The principle of holism elucidates a fundamental perspective: any foreign language teaching environment is inherently a complex ecosystem. Within this system, elements such as teachers, students, instructional materials, technological tools, and assessment mechanisms do not exist in isolation but are in a state of interdependence and dynamic interaction. Consequently, any alteration to a single element within the system may trigger a chain reaction, a characteristic that exemplifies the complexity of the teaching ecosystem.

To render the implicit connections within the system explicit, researchers need to collaborate with teachers and students to map out the system's relational network, thereby visualizing pathways of information, resources, and feedback. For instance, by analyzing the network of teacher-student interactions, structural deficiencies in the knowledge transmission process can be clearly identified.

4.1.2 Dynamism

The principle of dynamism emphasizes that educational systems must possess the capacity for self-renewal in alignment with evolving times. The educational ecosystem is never static but rather exists in a state of continuous flux and evolution. This necessitates that researchers transcend the limitations of static analysis and adopt a diachronic perspective to observe systemic transformations.

In practical terms, this requires the continuous collection of three categories of critical data across multiple temporal nodes: digital platform learning behavior logs, periodic learner survey feedback, and routine teaching evaluations. These datasets collectively form a monitoring network that enables researchers to track the trajectory of systemic evolution. For instance, by analyzing the changes in teacher-student interaction patterns over an academic semester, one can discern the practical efficacy of instructional strategy adjustments.

4.1.3 Interaction

The principle of interactivity directs research focus on the energy exchange within the instructional process. Investigations should not only examine the frequency of interactions but also dissect the quality and intrinsic characteristics of these interactions. By employing classroom discourse analysis methodologies, researchers can uncover interaction patterns concealed beneath routine teaching behaviors. Empirical data should be collected through various means, such as recording classroom discussions and gathering interaction data from online forums. Utilizing discourse analysis techniques, the collected materials should undergo in-depth decoding, with particular attention to turn-taking patterns, distribution of question types, and quality of feedback. These analytical dimensions contribute to addressing whether current classroom interactions facilitate knowledge co-construction or reinforce passive learning habits.

4.1.4 Situatedness

The principle of contextualization emphasizes that language acquisition must be rooted in authentic contexts. Effective pedagogical approaches should be deeply aligned with learners' background experiences, professional development needs, and socio-cultural environments.

In terms of research methodology, a multi-faceted needs analysis approach can be employed: utilizing questionnaires to capture learners' comprehensive demands, conducting in-depth interviews to understand instructors' pedagogical challenges, and engaging industry experts in curriculum validation. This triangulation method ensures a multi-dimensional exploration of the research subject.

4.2 From Diagnosis to Intervention Strategies

By analyzing the core problems existing in the educational ecosystem, the fundamental causes of imbalance in the educational ecosystem are identified, thereby providing solutions for formulating targeted intervention strategies.

4.2.1 Technology-curriculum Integration

The prerequisite for the integration of technology and curriculum is to view both as indispensable and ubiquitous components of the learning environment. By seeking a symbiotic relationship, technology and curriculum can co-evolve. It is necessary to seamlessly integrate tools such as corpora, AI writing assistants, or virtual communication platforms into core learning activities, making them essential for task completion.

4.2.2 Dynamic Content Mechanism

This mechanism emphasizes the adaptability and responsiveness of teaching content, meaning that the curriculum system should maintain a dynamic ecological balance. It involves utilizing existing media resources, incorporating student-generated content, or adopting a modular course design to establish a framework for regular updates and refreshing of learning materials. This facilitates problem diagnosis and enables resource reallocation based on feedback.

4.2.3 Authentic Task Design

Authentic task design aims to bridge the gap between the classroom and the real world by embedding learning in meaningful, goal-driven activities. Therefore, tasks that are authentic and replicable need to be designed, such as project-based teaching, role-playing based on scenarios, or community participation projects that require the application of real language.

4.2.4 Developmental Discourse Field

The developmental discourse field transforms the classroom into a learning community that promotes cognitive and language development through continuous dialogue, emphasizing the quality of interaction. It requires the abandonment of traditional rote learning methods in implementation and the adoption of dialogic teaching. It constantly pays attention to learners' feedback and the impact of environmental changes on learners, builds feedback strategies through questioning, thereby promoting mutual communication among students, deepening cognitive training and language acquisition, and ultimately cultivating students' interest in learning.

5. Discussion

5.1 Limitation

It must be admitted that the framework for foreign language teaching based on ecological linguistics constructed in this study has several limitations that need to be overcome urgently. First of all, although this framework integrates the research achievements of predecessors and practical problems, the research still remains at the theoretical construction level and has not been tested through teaching practice. Its true practical value and applicable boundaries still need to be verified through subsequent strict empirical research.

Secondly, the internal structure of the teaching ecosystem is complex and the interactions among various ecological elements are difficult to predict. Therefore, this may lead to deviations between the constructed model and the actual teaching context.

Finally, this method places high demands on the professional competence of researchers. To ensure the validity of the research, researchers need to receive systematic professional training to master the operation methods of various diagnostic tools proficiently. At the same time,to continuously make the model better, they also need to invest a lot of time and energy in data collection and analysis.

5.2 Future Research Directions

Based on the above limitations, future research should focus on advancing from three dimensions:

At the empirical level, future research could adopt a mixed-methods approach, conducting both quantitative and qualitative studies within specific instructional contexts to collect relevant data, thereby validating the practical efficacy of the theoretical framework.

At the applied level, particular attention should be paid to the adaptability and scalability of the framework. It is essential to explore the performance variations of this model across different educational levels and diverse cultural contexts.

At the theoretical level, efforts should be directed toward advancing the integration of ecolinguistics and foreign language teaching. Enhanced observation of students' learning experiences is crucial, with a focus on investigating how specific factors, such as classroom discourse quality, influence learners' motivation levels, identity construction processes, and the development of intercultural communicative competence.

Acknowledgments

This paper supported by the Teaching Reform Project of Hainan Vocational University of Science and Technology is the outcome of the research project " Research on the Construction of the English Teaching Ecosystem in Vocational Undergraduate Colleges" (No.HKJG2024-40).

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