



The Implications of the 4T Lenses for College English Teaching: Connotation and Practical Path

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Abstract

Against the background of globalization, college English education is facing both unprecedented challenges and opportunities. The traditional monolingual teaching approach can no longer meet the demands of cultivating multidisciplinary talents today. In this context, the 4T lenses (Trans-language, Trans-semiotizing, Trans-knowledging, Trans-culturing) offer a transformation pathway for college English teaching from single language skill development to comprehensive quality cultivation. In recent years, the 4T lenses, a hot topic in the international applied linguistics research, have attracted the attention of English educators in Chinese higher education. This study, relying on literature analysis, seeks to explore the theoretical connotations of the 4T lenses and analyze their implications for college teaching, aiming to provide theoretical reference and practical guidance for the reform of college English teaching.

Subject Areas

Educational Reform

Keywords

4T Lenses, College English, Teaching Mode

1. Introduction

To further deepen globalization and cross-cultural exchanges, college English teaching faces an urgent need to shift from training singular language skills toward cultivating comprehensive intercultural competence. The 4T lenses (trans-language, trans-semiotizing, trans-knowledging, trans-culturing) provide a sys-

tematic theoretical perspective for this transformation. However, existing research has focused mostly on theoretical introduction, lacking exploration of application pathways within the specific context of Chinese college English. This study takes “4T framework (Trans-languaging, Trans-semiotizing, Trans-knowl- edging, Trans-culturing)”, “college English”, and “teaching mode” as keywords, searching relevant literature from CNKI for the years 2020 to 2025. It analyzes the core essence of the 4T lenses and, based on the realities of teaching in China, con- structs specific pathways for its integration into college English curriculum de- sign, classroom practice, and resource development, aiming to provide reference for deepening English teaching reform and cultivating talents with global compe- tence, and empower learners to navigate, integrate and transform diverse lan- guage, symbol, knowledge and culture resources they possess.

2. 4T Lenses and Their Theoretical Connotation

2.1. Trans-Languaging

This concept originated from the Welsh language revival movement in the 1980s [1]. When educator Cen Williams observed bilingual classrooms in Wales, he found that although students were required to use Welsh, they often naturally in- tegrated English to complete tasks such as discussions and writing. This phenom- enon of cross-language integrated use was named “trawsieithu”. Colin Baker later renamed it as “Trans-languaging” and introduced this concept into the interna- tional applied linguistics community [2]. After the 21st century, Ofelia Garcia fur- ther expanded the boundaries of her theory. Through her research, she found that the low academic English proficiency of Hispanic children in the United States has no direct connection with the obstruction of their mother tongue, namely Spanish. Garcia believes that the conversion and alternating use between the two languages are beneficial and necessary [3]. In recent years, Chinese scholars have also begun to pay attention to the phenomenon. Li Wei and Shen Qi proved that human beings are born with “trans-language practice instinct” and explained the process of “trans-languaging” becoming “practical theory”. Through qualitative research, Zheng Yongyan and Qiu Yixi revealed the efficacy of trans-languaging in broadening cognitive frameworks, stimulating learning motivation, and en- hancing students’ confidence and sense of security. Wang Junju analyzed the pos- itive role of trans-languaging in enhancing writing initiative, rhetorical sensitivity, the diversity of educational environments, as well as critical thinking ability [4].

Trans-languaging is different from code-switching: the latter refers to the use of an independent language system in different contexts (such as using English in class and Chinese after class), and it is a matter of language selection. Trans-lan- guaging is the integration of multilingual features (such as explaining the gram- matical structures of long and complex English sentences in Chinese) within the same communicative behavior. It is a matter of language integration.

2.2. Trans-Semiotizing

Trans-semiotizing has its origin in Halliday’s systematic functional linguistics,

whose core idea is that language is a social symbolic system [5]. It is further developed in combination with multi-modal discourse analysis theory, which proposes that modality is the meaning resource for social and cultural construction, promoting the shift of symbolic research from language-oriented to multi-symbol collaboration.

With the popularization of digital technology, human communication has shifted from “text-dominated” to “multi-symbol collaboration”. Language symbols (text, speech) and non-language symbols (the color or composition of images, the posture or gesture of body movements, the data or type of charts) do not exist in isolation but form a “meaning network”. For instance, in English news reports, when describing “global temperature rise” in text, using a red line graph (visual symbol) and warning sound effects (auditory symbol) can enable the audience to more intuitively perceive the urgency of the climate crisis. The meaning of a symbol is not fixed but is jointly determined by the symbol itself, the context of use and the interpretation of the audience.

Traditional English teaching focuses on “word decoding” (such as memorizing words and analyzing sentence structures), and the teaching model that relies on pure text can no longer meet the needs of cultivating diverse talents. Trans-semiotizing emphasizes the ability of multi-symbol decoding and encoding. For instance, it guides students to use mind maps (visual symbols) to organize the thread of an article or short plays (language + body symbols) to interpret dialogues, enhancing the richness of meaning transmission. Researchers such as Liu Dan have attempted to construct a multi-modal writing evaluation model (including different modal information such as text, images, sounds, body movements, and spatial layout), and expounded on how it can be applied in specific business English teaching activities [6]. In essence, it is an exploration and practice of trans-linguaging teaching and learning.

2.3. Trans-Knowledging

Constructivist learning theory holds that knowledge is actively constructed by learners in their interaction with the environment, providing cognitive logic for “language learning and knowledge integration” [7]. Trans-knowledging practice, in combination with the concept of interdisciplinary education, advocates breaking down disciplinary barriers and achieving the organic integration of knowledge. Traditional English teaching regards language as an “independent skill”, disconnected from subject knowledge. However, the practice of trans-knowledge argues that language is a tool for acquiring and expressing subject knowledge, achieving mutual empowerment of language learning and knowledge construction.

In this process, learners need to reconstruct and express the knowledge of other subjects in the target language (e.g., English), rather than merely memorizing terms. For instance, when studying the theme of “Renaissance” in an English reading class, one can relate it to art subjects (English appreciation of Leonardo Da

Vinci's paintings), history subjects (sorting out the background of the Renaissance in English), and science subjects (English expression of Copernicus' heliocentric theory), making language learning a "bond" for knowledge integration. Ultimately, achieve the simultaneous improvement of language proficiency and subject literacy. Professor Wang Zhuo from Shandong Normal University led his team to explore the necessity, feasibility and innovative paths of reforming the interdisciplinary education model of college English, from aspects such as the cultivation of an interdisciplinary knowledge system in English, the innovation of interdisciplinary teaching organization models, the innovation of interdisciplinary project-based deep learning teaching methods, and the cultivation of interdisciplinary English critical thinking abilities, which provides a reference model for college English teaching[8].

CLIL represents the dual integration of language and content, while ESP is a form of language training tailored for specific purposes, with both focusing on the instrumental use of language and presupposing relatively fixed knowledge boundaries and learning pathways. In contrast, "trans-knowlegding" emphasizes breaking down the boundaries between disciplines, languages, cultures, and semiotic resources, guiding learners to integrate and creatively transform knowledge through dynamic interactions within diverse knowledge systems. Its core value lies in fostering deep thinking and knowledge innovation capabilities, rather than merely mastering specific skills or content.

2.4. Trans-Culturing

Trans-culturing is based on Edward Hall's theory of high and low context cultures, which divides cultures into "high context cultures (such as China)" and "low context cultures (such as the United States)", providing a framework for cross-cultural difference analysis [9]. Professor Sun Yifeng from Lingnan University in Hong Kong pointed out that cross-cultural communication is an inevitable trend of globalization. With an open mind and a positive attitude, various cultural barriers should be broken down, and foreign cultures should give rise to things suitable for local cultures. Only by reconstructing cultures in the constantly evolving cultural conflicts can true cross-cultural dialogue and exchange be achieved [10].

The cultural teaching in traditional English education often falls into "Western centerism" (such as frequently introducing Christmas and Thanksgiving, but neglecting the English expressions of traditional Chinese festivals). In contrast, trans-culturing emphasizes two-way dialogue and critical reflection, with the core being to cultivate cross-cultural communicators who not only understand Western culture but also can export Chinese culture. Cultural differences lie in different ways of survival and value orientations, rather than distinctions of so-called superiority and inferiority [9]. For example, when introducing the "Dragon-boat Festival" in English, it is necessary not only to translate "zongzi" and "dragon boat race", but also to explain the cultural connotation of "commemorating Qu Yuan" and the manifestation of the "dragon-boat spirit" in contemporary times, so that

Western audiences can understand the inheritance and innovation of Chinese culture and form an objective and inclusive cultural perspective.

3. The Implications of the 4T Lenses for College English Teaching

3.1. Trans-Languaging and Its Implication for College English Teaching

First of all, we should innovate teaching concepts, establish a multilingual teaching perspective, recognize the auxiliary role of the mother tongue in English learning, and avoid the extreme teaching approach of “banning the mother tongue”. Secondly, optimize teaching methods and allow for moderate native language assistance, such as first laying the groundwork in the native language when explaining complex concepts, and then guiding students to reorganize their expressions in English. Analyzing the differences in the use of passive voice between Chinese and English, the teacher could design a “bilingual comparison task” to help students establish language connections; When teaching College English Test Writing Skills, he or she could first explain the “scoring criteria”, “common types of essays”, and “structural features” in Chinese; then guide students to break down the structure of model essays in English; and finally require students to complete the framework of the essay in the form of “Chinese-English comparison”, which not only lowers the threshold for writing, but also enhances the accuracy of language expression. In addition, multiple evaluation standards should be established, with a focus on learners’ comprehensive application ability of multilingual resources, rather than merely taking language proficiency as the sole reference [2].

3.2. Trans-Semiotizing and Its Implication for College English Teaching

Firstly, create multi-modal teaching materials, such as explaining the theme in a combination of “animation demonstration + data chart + audio interpretation”, to diversify the forms of language input. Artificial intelligence software such as Sora can automatically generate teaching short videos, 3D models, animations and other digital resources. This not only enriches the teaching content and form, but also saves teachers’ time and improves teaching efficiency [11]. Secondly, assign multi-symbol output tasks, such as requiring students to introduce the content of an English novel through a “PPT (text + picture) presentation”, or adapt English dialogues in the form of comics; guide students to apply semiotic theory to analyze discourse and understand the collaborative ideograph functions of different symbols. Artificial intelligence software such as Doubao can achieve image-text conversion. On the one hand, it helps students deeply understand and analyze the original text (determine whether the text and images match), and on the other hand, it provides students with more options to complete the output tasks. Meanwhile, a multi-modal evaluation model is adopted, focusing on learners’ ability to integrate different symbols and the adaptability of symbol selection to the context,

rather than merely evaluating the accuracy of language expression.

For ethical concerns, it is advocated to clearly define an “AI Use Policy” in the course syllabus, outlining the permissible and prohibited scope of AI use, and requiring students to transparently disclose AI contributions. The assessment approach should be shifted from emphasizing “output results” to prioritizing the “thinking process”. Methods such as oral defenses, process records, and reflection journals can be adopted to evaluate students’ critical integration and innovative capabilities demonstrated in collaboration with AI.

3.3. Trans-Knowledging and Its Implication for College English Teaching

Firstly, interdisciplinary English micro-courses should be offered for students of different majors, such as “Textile Industry in English”, “English Secretarial Skill”, and “Cross-border E-commerce English”, to achieve the connection between language teaching and professional demands. Secondly, design cross-disciplinary tasks, such as asking students to write campus environmental protection proposals in English (combining knowledge from environmental protection disciplines). Promote interdisciplinary extracurricular reading to broaden students’ horizons and language application scenarios. Proud of the achievements of China’s aerospace industry, students are required to introduce the naming and significance of Chinese spacecraft in English, combining aerospace knowledge, literary knowledge, and historical knowledge, which helps achieve the triple goals of “mastering interdisciplinary knowledge + improving logical expression in English + cultivating a deep sense of patriotism”. Its evaluation focuses on the learners’ ability to acquire subject knowledge and express professional viewpoints in English, while highlighting the humanistic nature of the language.

3.4. Trans-Culturing and Its Implication for College English Teaching

Firstly, expand the teaching content, incorporate cultural education into the core goals of English teaching rather than treating it as an additional component, and emphasize the significance of cultivating cultural literacy. Secondly, design two-way output tasks, such as guiding students to make introduction videos of “Chinese Yellow Wine” and “French Wine” in English; Organize critical discussions on organizational culture, such as analyzing the presentation perspectives of China in English news reports, to cultivate students’ critical thinking [12]. Adopt experiential teaching methods, such as simulating cross-cultural communication scenarios through role-playing, exploring cultural differences through case analysis, and conducting cross-cultural project learning, to enhance students’ practice abilities. For instance, when introducing Eastern and Western festivals, teachers can issue task lists, guide students to sort out the similarities and differences between major festivals in the East and the West and draw mind maps. Then create a situation and ask students to make posters in English to introduce “The Day of

the Dead in Mexico” and the “Qingming Festival” in China to Mexican international students. Finally, share with classmates and select excellent works to be displayed on relevant online platforms.

4. The Application Path of the 4T Lenses in College English Teaching

4.1. Optimization of Course Design

For the course, establish a four-in-one course objective of “language proficiency + cultural awareness + thinking quality + learning ability” to cover the comprehensive quality needs of learners.

Create content of four major modules—language knowledge module (pronunciation, vocabulary, grammar, discourse), cultural content module (knowledge of Chinese and foreign cultures, cross-cultural communication strategies), professional knowledge module (subject English content combined with students’ majors), and interdisciplinary content module (themes of multi-field knowledge integration) to enrich learning resources.

Promote blended teaching (combining online self-study with offline interactive teaching), project-based learning (conducting interdisciplinary projects around real themes), cooperative learning (forming groups to complete inquiry tasks), and inquiry-based learning (guiding students to independently discover and solve problems) [12]. Apply multi-modal teaching technology (integrating audio, video, animation and other resources), virtual reality technology (creating immersive language and cultural experience scenarios), and artificial intelligence-assisted teaching (providing personalized learning recommendations and feedback).

Adopt diversified evaluation (combining teacher evaluation, self-evaluation and peer evaluation), process evaluation (focusing on progress and performance during the learning process), multi-modal evaluation (comprehensively considering the application effects of different symbols), and performance evaluation (testing abilities through real-world tasks).

4.2. Teachers’ Professional Development

For the teacher, enhance the four core competencies of teachers: language knowledge literacy (systematic knowledge of English language and teaching theories), cultural knowledge literacy (rich reserves of Chinese and foreign cultures), subject knowledge literacy (understanding the basic content of related subjects), and educational technology literacy (proficient application of modern teaching technologies). Teachers’ professional growth is promoted through various means such as specialized training (conducting theoretical and practical training on the 4T framework), building a teacher learning community (organizing teaching discussions and experience exchanges), providing teaching support (equipping teaching resources and technical guidance), and holding teaching competitions (promoting teaching through competitions and driving method innovation).

5. Conclusion and Prospect

5.1. Conclusion

Trans-languaging addresses the issue of “language resource integration”; trans-semiotizing resolves the problem of “diverse meaning transmission”; trans-knowl- edging resolves the issue of “language and knowledge integration”, and trans-cul- turing addresses the issue of “cross-cultural communication”, providing a trans- formation path for college English teaching from single language skills training to comprehensive quality cultivation. The reform of college English teaching based on the 4T lenses requires the collaboration of multiple parties: universities need to provide policy support (such as conducting business English practice through school-enterprise cooperation) and resource guarantee (such as building a multi- modal teaching resource base); teachers need to update their teaching concepts and methods (such as mastering multi-symbol teaching design), and students need to actively participate in the learning process (such as completing interdis- ciplinary projects).

5.2. Research Limitations and Prospect

This study mainly relies on literature analysis and lacks empirical data support. It focuses on college English teaching and does not involve the application and ex- ploration of the 4T lenses in other educational fields such as vocational English. In the future, relevant empirical research can be carried out to track and analyze the long-term impact of the 4T lenses on students’ language proficiency, cross- cultural literacy and other indicators, and form a verification report supported by data. The adaptability of the 4T framework in fields such as vocational English training can be further explored to form solutions for different scenarios.

Fund Project

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Conflicts of Interest

The author declares no conflicts of interest.

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