

**MODERN VECTORS OF SCIENCE
AND EDUCATION DEVELOPMENT
IN CHINA AND UKRAINE**

中国与乌克兰科学及教育前沿研究

Harbin Engineering University

State institution "South Ukrainian National Pedagogical University named after K. D. Ushynsky"

Educational and Cultural Center "Confucius Institute"

Odesa, Ukraine

Harbin, the People's Republic of China

**MODERN VECTORS OF SCIENCE
AND EDUCATION DEVELOPMENT
IN CHINA AND UKRAINE**

中国与乌克兰科学及教育前沿研究



ISSN 2414-4746

MODERN VECTORS OF SCIENCE AND EDUCATION
DEVELOPMENT IN CHINA AND UKRAINE
中国与乌克兰科学及教育前沿研究



2024
ISSUE № 10

MODERN VECTORS OF SCIENCE AND EDUCATION
DEVELOPMENT IN CHINA AND UKRAINE

中国与乌克兰科学及教育前沿研究



**The State institution “South Ukrainian National Pedagogical
University named after K. D. Ushynsky”**

Harbin Engineering University

**2024
ISSUE № 10**

Odesa, Ukraine

Harbin, the People's Republic of China

This international journal, as a periodical, includes scientific articles of Ukrainian and Chinese scholars on the problems of Sinology, Cross-cultural Communication, Pedagogy and Psychology: contemporary review. Odesa, Ukraine.

Issue № 10

South Ukrainian National Pedagogical University named after K. D. Ushynsky

Odesa, Ukraine, 2024

Harbin Engineering University

Harbin, the People's Republic of China, 2024

Editorial Board

Professor Chebykin Oleksiy, South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, Ukraine

Professor Yao Yu, Harbin Engineering University, Harbin, China

Professor Bogush Alla, South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, Ukraine

Professor Koycheva Tetyana, Odessa National Maritime University, Odesa, Ukraine

Professor Karpenko Olena, Odesa I. I. Mechnikov National University, Odesa, Ukraine

Professor Korolyova Tetyana, Odessa National Maritime University, Odesa, Ukraine

Professor Naumkina Svitlana, South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, Ukraine

Doctor of Philosophy (PhD in Linguodidactics) Pak Antonina, South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, Ukraine

Professor Popova Oleksandra, South Ukrainian National Pedagogical University named after K. D. Ushynsky, Odesa, Ukraine

Professor Luo Yuejun, Harbin Engineering University, Harbin, China

Professor Wang Chuanyi, Harbin Engineering University, Harbin, China

Professor Yang Guoqing, Harbin Engineering University, Harbin, China

Professor Zheng Li, Harbin Engineering University, Harbin, China

Professor Zhu Dianyong, Harbin Engineering University, Harbin, China

Modern vectors of science and education development in China and Ukraine (中国与乌克兰科学及教育前沿研究): International annual journal. – Odesa: South Ukrainian National Pedagogical University named after K. D. Ushynsky, Harbin: Harbin Engineering University, 2024. – Issue 10. – 390 p.

The ninth issue of the materials represented by the Ukrainian and Chinese scholars are dedicated to the relevant issues of General and Contrastive Linguistics within the Chinese, English, Ukrainian, Turkish and Korean languages; linguodidactic problems of teaching native and foreign languages within polycultural educational space; peculiarities of cross-cultural communication in geopolitical space alongside education-related aspects regarding profession-oriented training of future specialists under conditions of multicultural environment and military actions in Ukraine; post-COVID-19 pandemic chalanges.

The given articles may be of use to researchers, graduates, postgraduates and practising teachers who are interested in various aspects of Sinology, Cross-cultural Communication, Linguistics, Pedagogy and Psychology.

ISSN 2414-4746

©All rights reserved

Recommended for press

by the Academic Council
(Minute #15 dated 25 April 2024),
South Ukrainian National Pedagogical
University named after K. D. Ushynsky,
Harbin Engineering University

South Ukrainian National Pedagogical University named after K. D. Ushynsky,

Odesa, Ukraine

Harbin Engineering University

Harbin, the People's Republic of China

CONTENTS

FOREWORD	13
<i>Bao Liying.</i> <i>Effects Of Modern Technology Assisted Foreign Language Learning and Classroom Teaching on Defossilization.....</i>	15
Ph. D., Professor, School of Foreign Studies, Harbin Engineering University, Harbin, China	
<i>Berezovska Liudmyla.</i> <i>Multicultural Education in the Profession-Oriented Training of Pre-Service Educators of Pre-School Education Institutions.....</i>	24
Doctor of Pedagogical Sciences, Professor, Head of the Department of Theory and Methods of Pre-school Education at the State institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”, Odesa, Ukraine	
<i>Bogush Alla Mikhailivna.</i> <i>Formation of Speech and Ethnic Personality of Future Preschool Education Specialists Under Conditions of Ethno-Cultural And Intercultural Communication.....</i>	33
Doctor of Pedagogical Sciences, Full Professor, Academician, Current Member of the National Academy of Educational Sciences of Ukraine, Honoured worker of science and technology of Ukraine, Professor at the Department of Theory and Methods of Pre-school Education, State institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky”, Odesa, Ukraine	
<i>Cui Wen.</i> <i>A Study on the English Translation of the Documentary Life Matters Anti-Epidemic Special Program from the Perspective of the Skopos Theory (Excerpts).....</i>	39
Master's degree, Harbin Engineering University, Harbin, China	
<i>Dong Jingwen.</i> <i>A Correlation Analysis between Chinese College Students' Rhythm of English Reading Aloud and their Virtual Language Environment.....</i>	48
Graduate student, Harbin Engineering University, Harbin, China	
<i>Du Yaru.</i> <i>An Exploration of Word Meaning Selection in the Translation Process.....</i>	58
BA, MA, Harbin Engineering University, Harbin, China	
<i>Gao Bei, Zhou Wei.</i> <i>The Construction of the Technical Competence of Translators in the Era of Artificial Intelligence.....</i>	65
Master of Arts, associate professor East University of Heilongjiang, Harbin, China	
Master of Arts, associate professor Harbin Engineering University, Harbin, China	
<i>Gao Kaiyu.</i> <i>A Study of the Translation Methods of Culture-Loaded Words in Chinese White Paper—A Case Study on China's Armed Forces: 30 Years of Un Peacekeeping Operations.....</i>	75

DOI: 10.24195/2414-4746-2024-10-1

UDC: 37.016:81'243(045)

B23

Bao Liying

*Ph. D., Professor, School of Foreign Studies,
Harbin Engineering University, Harbin, China*

EFFECTS OF MODERN TECHNOLOGY ASSISTED FOREIGN LANGUAGE LEARNING AND CLASSROOM TEACHING ON DEFOSSILIZATION

Abstract: *This paper aims to compare the roles of modern technology-assisted language learning (MTAFLL) and classroom teaching (CT) in addressing language fossilization. CT has advantages in providing corrective feedback, high-quality input, and affective feedback, while MTAFLL provides learners with effective learning experiences through sufficient qualified input, personalized learning, intelligent feedback, and simulated real language environments.*

Keywords: *fossilization, modern technology assisted learning, classroom teaching, interlanguage, defossilization.*

Introduction

In today's era of rapid advance, information technology and smart technology are increasingly penetrating various fields, including education. At the same time, classroom teaching methods are constantly evolving and adjusting. While striving for more efficient and personalized learning approaches, people are beginning to explore how to integrate modern technology with classroom teaching to promote innovation and development in education. Foreign language teaching (FLT) has undergone an evolution from the initial traditional classroom teaching to computer assisted instruction (CAI), from computer assisted language learning (CALL) to network assisted language learning (NALL), and now to AI assisted language learning (AIALL). With the continuous development and application of technology, FLT will continue to

experience more innovation and change.

In FLT, as well as in Second language acquisition (SLA), fossilization is still confronting researchers, second language (L2) teachers and foreign language teachers after half a century's endeavor. As Larsen-Freeman concluded, "it defies easy definition, description, and explanation" (2006). Researchers attributed this line of inquiry to Selinker, in whose seminal work, he "coined two terms that are fundamental to the field of SLA: 'interlanguage,' which describes the learner's developing L2 competence, and 'fossilization,' the end of that process of development" (Finneran & Han, 2019). Researchers in SLA and language teachers attend to and define this developmental stagnation in different ways, analyze the causes of interlanguage fossilization from various perspectives, and explore possible means of defossilization based on these causal variables. In this paper, fossilization is used to describe the state of stabilization in the development of learners' interlanguage. The roles of modern information technology and smart technology, and classroom teaching in the defossilization process are compared, aiming to explore how to organically integrate classroom teaching and technological means to raise the efficacy of defossilization.

Addressing Environmental Factors Leading to Fossilization

Environmental factors in language learning environments can contribute to language fossilization. Factors leading to fossilization include lack of corrective feedback, insufficient input, poor input quality, and lack of instruction among others. (Han, 2004).

Corrective feedback can prevent fossilization on the premise that there is genuine interaction and communication between learners and feedback providers, ensuring that learners not only understand the content of corrective feedback but also notice the discrepancy between corrective feedback and the language structures they produce.

CAI is one of the earliest forms of computer applications in FLT, which use computer software to provide students with language learning materials such as glossary, grammar exercises, and listening exercises. Due to lack of individual learning experience and interaction, these systems are unable to provide corrective feedback. CALL provides students with various more resources, including speech recognition,

intelligent dialogue systems, and multimedia learning materials. The term *instruction* is upgraded to *language learning*, reflecting the increase in learners' autonomy in this approach. CALL systems allow students to learn at their own pace and according to their needs, introducing more interactivity and personalized learning experiences, while providing immediate feedback and correction.

The demand for interaction has led to the development of NALL system based on network platforms. Students can communicate with teachers and classmates through online courses, audio-video conferences, and virtual language practices to promote interaction competence. The use of network platforms in FLT partially compensates for the deficiencies of previous technologies with its virtual cognitive and emotional corrective feedback. Classroom FLT exhibit outstanding privilege in providing facial expressions, gestures, and intonation among other emotional feedback to learners.

Insufficient input and poor input quality are two other reasons leading to fossilization. Some SLA researchers (e.g., Gass and Lakshmanan, 1991) compared the language input of children acquiring their mother tongue with that of L2 learners. They observed that the language input for mother tongue acquisition is simple and accurate, while the quality of language input for L2 learners varies. Similarly, the native language environment can provide sufficient and authentic input, whereas the input situation in SLA environment, especially in foreign language learning environments, differs, with an abundance of ungrammatical and non-target-like input produced for communicative purposes. Hence there is possibility that input from teachers in quantity and quality and the grammatical correctness and contextual appropriateness of peer discourse cannot be guaranteed. These problems can be addressed through the vast databases of modern technology. ChatGPT, one of the AI assisted language learning (AIALL), can simulate the experience of conversing with a real person, not only relying on databases to provide rich authentic language input, ensuring the quantity and quality of input but also providing personalized language learning support.

Environmental factors leading to fossilization also include lack of explicit instruction. Explicit instruction is an essential method that allows learners to rapidly acquire language through their robust cognitive abilities. SLA differs from native

language acquisition in that rare learners' ultimate attainment match that of native speakers (Han & Odlin, 2006), with the only advantage being that humans can rely on universal cognition in learning the rules of the target language. In general SLA environments, where the target language is one of the official languages, there is rarely any metalinguistic explanation accompanying input and output of the target language, which is assumed to lead to fossilization. In modern technology assisted foreign language learning, there exist the same problem as the learners exercise their autonomy and make their choice. Even in AIALL adept at personalized learning, the results vary depending on the quality of the prompts posed by the learners.

Classroom FLT has clear objectives, during which metalinguistic descriptions and explanations of target language structures are provided and learners attention is directed to language form. However, overlearning (Lightbown, 1983) and transfer of training may disturb the natural frequency of the overlearned structures in target language and lead to fossilization. In other words, while classroom teaching can facilitate the mastery of metalinguistic knowledge, it also requires a well designed teaching plan to avoid misleading learners' cognition through overlearning.

The rise of corpus research provides solutions to the above problems in classroom FLT. Corpora facilitate foreign language learning by providing vast amounts of authentic language data. By analyzing the language data in corpora, learners can identify language patterns and rules, understand the frequency, collocations, and meanings of language structures and pragmatic information in language use, and improve communication skills. Robert Poole (2018) introduced methods for using corpora to assist English language learners in his book "A Guide to Using Corpora for English Language Learners." If corpus learning methods can be effectively and reasonably integrated into classroom FLT, learners can enjoy the advantages of planned, targeted, and communicative classroom teaching, as well as access to a large amount of authentic language input and quantitative data on various aspects of language structure usage, which is an effective method for defossilization.

Addressing Fossilization Caused by Cognitive Factors

Cognitive factors leading to fossilization include insensitivity to input,

insensitivity to input-output discrepancy, lack of attention, influence of the native language, and lack of opportunities to use the target language.

Some developmental psycholinguists (e.g., Gleason and Ratner, 1998) argued that humans lose their unbiased perception of language by the age of one and “perceptual loss is a consequence of the infant’s continued interaction with her language.” Ellis (2006) expressed similar observation that the minds of L2 learners are “already tuned and committed” to their first language. Lack of unbiased cognition to target language exposure gives rise to insensitivity to input and input-output discrepancies. This aligns with speculation of Han (2013) who asserted “Fossilization is inspired by an L1 - relativized mind.”

There are other explanations for learners’ insensitivity to input and input-output discrepancies. Research on SLA order (e.g., Pica, 1994) has shown that acquisition occurs in a certain order and not all target structures are equally available to learners. Theoretically speaking, textbooks and other teaching materials are supposed to be organized according to the acquisition order in order to enhance learning. Learning materials fail to observe the rule of acquisition order not only waste time and energy of learners, but also bewilder the learners by disturbing their pace. By the same token, Teachability Hypothesis proposed by Pienemann (1985) also provides reasons why learners are insensitive to certain inputs.

The rigorous teaching plans in classroom FLT, following the acquisition order, thus have significant advantages in addressing learners’ lack of sensitivity to some unprepared language structures. Foreign language teachers can select materials and teaching content according to the acquisition order and flexibly adjust teaching plans based on the characteristics of different learners. Sensitivity to input-output discrepancies can also be enhanced through corrective feedback in face to face communication and writing correction, which cannot be achieved in foreign language learning assisted by new technologies in which input chosen by learners cannot guarantee its “learnability.” Even AI that claims to provide personalized learning experiences in FLT is of limited facilitating help, as the quality of the information provided by AI, such as learning content and methods, depends on the quality of

prompts from learners.

In addressing fossilization caused by influence of first language, teachers sharing the same first language with learners “can more readily identify potential sources of difficulty for their students and provide more effective, individualized instruction” (Finneran, 2019). With the awareness of first language transfer, teachers can address learners’ lack of attention to some language structures by increasing the frequency of target structure occurrences and enhancing the saliency of target structures, achieving the goal of defossilization.

Lack of opportunities to use the target language is also a factor leading to fossilization. Foreign language learning methods assisted by modern technology (such as ChatGPT) can provide more opportunities to use the target language. Intelligent speech recognition technology allows students to practice dialogue with AI through voice input, thereby improving oral communication skills and increasing opportunities to use the target language. Although human-computer dialogue may have issues such as authenticity, it at least solve the problem of lack of opportunities to use the target language to a certain degree.

Dealing with Fossilization Caused by Socio-Emotional Factors

Satisfaction of communication needs, lack of cultural adaptation, and identity factors such as acculturation can also lead to language fossilization.

Skehan (1998) suggested from a psychological perspective that L2 learners have a natural tendency to focus on language meaning while neglecting language form. As learners age, they gradually acquire more communication strategies, use more schematic knowledge, and express the most meaning with the least language. The social context of communication also provides clues (role relationships, power status, background, topics), allowing learners to achieve basic communication without focusing on language form, which leads to fossilization.

In classroom interaction, communication needs could be met while learners’ attention being directed to forms under the guidance of teachers. Although AI has the potential to provide immediate feedback and correction, the interaction between AI and learners still follows the principle of communication priority. Put it another way, if

learners do not request it, AI will infer the meaning of learners' speech, neglecting language form, especially errors in learners' production. If communication goal is achieved, output is verified and learners either ignore language output or incorporate incorrect output into their knowledge system, leading to fossilization.

Modern technology assisted foreign language learning and classroom FLT do not fundamentally differ in cultural adaptation and identity. In both methods, there is no substantial difference in social and psychological distance between learners and the target language speaker community, which also distinguishes foreign language learning from SLA. However, the personalized learning experience in technology assisted foreign language learning is more conducive to cultural adaptation and makes it easier for learners to integrate into virtual communication relationships and reduce social and psychological distances. AI also faces some challenges and limitations. For example, AI cannot provide paralinguistic emotional feedback, emotional support and encouragement, establish trust and emotional connection between teachers and students, or stimulate students' enthusiasm and motivation for learning the way teachers do in classroom. Therefore, the application of AI in FLT also requires educators and students fully tap its potential and advantages in defossilization.

Conclusion

In FLT, language fossilization is a common and urgent problem. Modern technology assisted language learning and classroom FLT play different but complementary roles in defossilization. In addressing fossilization caused by environmental factors, cognitive factors, and socio-emotional factors, classroom FLT and technology assisted language learning reveal different but important potentials.

Modern technology assisted language learning, such as the application of AI technology, provides personalized learning experiences, rich learning resources, and instant feedback mechanisms, which help address issues such as inadequate input and insensitivity to input, facilitating development of interlanguage of learners and preventing fossilization. Versatile as it is, modern technology is not able to completely replace human teachers.

In contrast, classroom FLT has unique advantages in establishing emotional

connections between teachers and students, providing emotional support, and cultivating students' critical thinking. Teachers can adjust teaching methods promptly based on student feedback and, through proper arrangements of teaching plans and selection of teaching materials, help prevent the occurrence of fossilization by addressing learners' lack of sensitivity to some unprepared language structures.

In summary, modern technology assisted language learning and classroom FLT have their own advantages in preventing fossilization and can complement each other, jointly promoting the defossilization of foreign language learning. Therefore, establishing a comprehensive and flexible teaching model, combining modern technology assistance with classroom instruction, will help improve development of learners' interlanguage and achieve the goal of defossilization.

REFERENCES

1. Ellis, N. (2006). Cognitive perspective on SLA: the associative-cognitive creed. *AILA Review*, 19, 100–12.
2. Finneran, R. B. & Han, Z-H. (2019). Fossilization. In John I. Lontas (Ed.), *The TESOL encyclopedia of English language teaching* (pp. 1-8). John Wiley & Sons, Inc.
3. Gass, S. and Lakshmanan, U. (1991). Accounting for interlanguage subject pronouns. *Second Language Research*, 7 (3), 181-203.
4. Gleason, J. and Ratner, N. (1998). Language acquisition. In J. Gleason & N. Ratner (Eds.), *Psycholinguistics* (pp. 347-408). Harcourt Brace College.
5. Han, Z-H. (2004). *Fossilization in adult second language acquisition*. Multilingual Matters.
6. Han, Z.-H. (2013). State-of-the-art article: 40 years later—updating the fossilization hypothesis. *Language Teaching*, 46(2), 133–71.
7. Han, Z-H. & Odlin, T. (2006). Introduction. In Z-H. Han & T. Odlin (Eds.), *Studies of fossilization in second language acquisition* (pp. 1-20). Multilingual Matters.
8. Larsen-Freeman, D. (2006). Second language acquisition and the issue of fossilization: there is no end, and there is no state. In Z-H. Han & T. Odlin (Eds.), *Studies of fossilization in second language acquisition* (pp. 189-200). Multilingual

Matters.

9. Lightbown, P. (1983). Exploring relationships between developmental and instructional sequences in L2 acquisition. In H. Seliger & M. Long (Eds.), *Classroom oriented research in second language acquisition* (pp. 217-45). Newbury House.
10. Pica, T. (1994). The Selective impact of classroom instruction on second language acquisition. *Applied Linguistics*, 6 (3), 214-222.
11. Pienemann, M. (1985). Learnability and syllabus construction. In K. Hyltenstam & M. Pienemann (Eds.), *Modelling and assessing second language acquisition* (pp. 23-75). Multilingual Matters.
12. Poole, Robert. (2018). *A Guide to using corpora for English language learners*. Edinburgh University Press.
13. Skehan, P. (1998). *A Cognitive approach to language learning*. Oxford University Press.

暴丽颖

博士，教授，哈尔滨工程大学外国语学院，哈尔滨，中国

现代技术辅助外语学习与传统课堂教学“去石化”作用比较研究

摘要：本文旨在比较现代技术辅助语言学习与课堂外语教学在解决语言石化问题中的作用。文章从环境、认知、心理和社会情感四个方面分析了语言石化的形成原因，然后对现代技术辅助语言学习和课堂外语教学在解决石化问题中的作用进行了比较和探讨。课堂外语教学在提供纠正性反馈、高质量输入和情感反馈方面具有优势；而现代技术辅助语言学习则通过个性化学习、智能反馈和模拟真实语言环境等方式为学习者提供更有效的学习体验。综合利用现代技术和教学方法，将有助于更好地解决语言石化问题，推动外语教学的创新与发展。

关键词：现代技术辅助学习；课堂外语教学；语言石化；去石化作用