

The Application and Implications of Memetics Theory in Second Language Acquisition

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Abstract: In recent years, with the continuous development of language learning theories, the traditional model of second language acquisition has gradually exposed its limitations and is unable to fully explain the complex language learning process. Meanwhile, Memetic Theory, as a theory that explains cultural transmission and imitation, has shown potential application in the field of language learning. As a result, this paper explores its application strategies and implications in second language learning. Specifically, through a literature review of traditional language learning theories (e.g., behaviorism, cognitivism, and social constructivism), it analyzes the shortcomings of these theories in language learning, and proposes modal theory as an alternative theory. In addition, it examines the impact of modality on the vocabulary retention, grammatical proficiency, and phonological imitation of language learners, and assesses the potential benefits of modal propagation in language teaching and learning by integrating it with actual teaching cases. In short, the study, which employs a systematic application of modality theory to the field of language learning, can provide new perspectives and methods for second language acquisition, thereby enhancing the efficacy of language learning.

Keywords: Second Language Acquisition, Memetics Theory, Language Learning Strategies, Pedagogical Innovations.

1. Introduction

In the context of accelerated globalization and multicultural integration, the ability to learn a second language has become a crucial competency for individual career development and social interaction. In this process, the mechanism of language transmission and learning has attracted much attention, and memetic theory, as a theory of cultural evolution, provides a new perspective for understanding language transmission and acquisition. The theory suggests that language is both a communicative tool and a cultural unit that is transmitted through imitation, mutation and transmission [1]. Thus, the role of modality in language learning, especially its influence on learners' cognition and strategy choice, has become an issue worthy of in-depth exploration. In recent years, modality theory has been gradually applied to the field of linguistics, and researchers have explored the role of modality in language transmission and change. Nevertheless, research on the specific application of modality theory in second language acquisition is still limited. The impact of modality on learners' cognitive processes via language transmission and its potential implications for language learning strategies have not been fully answered. As such, the paper aims to explore the application of the modality

theory in second language learning, especially its impact on language learning strategies. Through a systematic review of the existing literature, this paper will analyze how modality theory provides a new theoretical framework for language learning and explore its potential for application in actual teaching. Overall, it not only provides new ideas for the study of language acquisition, but suggests pedagogical innovations and optimized language transmission models.

2. Traditional Language Learning Theory

2.1. The Theory of Behaviorism

The theory of behaviorism, as put forth by Ivan Pavlov and B.F. Skinner, places emphasis on the explanation of the learning process through the stimulus-response-reinforcement mechanism [2]. And this theory posits that language learning is a passive process that relies heavily on repetitive language input and active reinforcement. This approach initially showed efficacy in early language acquisition, but its shortcomings became increasingly apparent over time. It overemphasizes the relationship between external stimuli and responses and neglected the internal cognitive processes of learners, such as memory, comprehension and creativity. With the development of cognitive science and neuroscience, the notion that language learning is not just a simple stimulus-response process, but involves complex cognitive processing, has gradually gained popularity. As a result, the theory of behaviorism fails to fully explain the complexity of language learning, thereby driving the search for new theories.

2.2. The Theory of Cognitivism

In response to the limitations of behaviorism, the theory of cognitivism places great emphasis on the cognitive abilities and internal mental processes of the learner. In contrast to the former view on passive learning, it conceptualizes learning as an active process in which learners engage in the processing and manipulation of information through the application of thought patterns and learning strategies [3]. The cognitive approach to language learning emphasises the role of internal mental processes, such as memorisation and comprehension, in facilitating the acquisition of language. This theory addresses the limitations of behaviorism in explaining learner initiative and underscores the learner's subjective initiative in language acquisition. Nevertheless, cognitivism still falls short in adequately explaining the influence of social and cultural contexts, and it fails to sufficiently consider social interactions and cultural factors in language learning.

2.3. The Theory of Social Constructivism

In both of the first two theories, the source of knowledge is external, which leads to a scrutiny of the role of the individual and society in creating meaning or their own knowledge, which is one of the main assumptions of constructivism [4]. The theory of social constructivism are complementary to those of behaviorism and cognitivism, which posits that language learning is a product of social interaction and cultural environment [5]. Furthermore, it emphasizes that learners actively construct language knowledge by engaging in social practices and interactions, suggesting that experience and the social environment play an important role in language learning, and that the teacher's main role is to create a rich learning environment that helps students develop their personal understanding [3]. However, despite the fact that social constructivism emphasizes the role of social and cultural factors, it is still inadequate in explaining cross-cultural and linguistic modal transmission. For instance, the full extent of the transmission of language patterns across cultures and their impact on learners' perceptions remains to be elucidated.

3. Theoretical Framework for Memetics Theory in Second Language Learning

3.1. Fundamental Concepts

Memetics Theory, as a new theory based on theory of evolution, aims to explain the evolution of culture. In 1976, British biologist Richard Dawkins introduced the term “meme” in his book *The Selfish Gene*, referring to entities that play a role in cultural transmission, such as language, ideas, beliefs, and behavioral patterns, similar to the role of genes in biological evolution [6]. Based on Dawkins’ concept, memes, as the fundamental units of cultural transmission, are continuously replicated, mutated, and selected within human society. Models are present in every aspect of our lives, from daily conversations to social media sharing, from ancient legends to modern pop culture, they are everywhere. The theory attempts to explain the universal relationships of things and the evolutionary patterns of essential cultural features from a new perspective. According to Susan Blackmore, Dawkins’ successor, the core of memes lies in imitation. And it can be defined as ideas, teachings, actions, messages, etc. transmitted through imitation [7]. In other words, the theory posits that information in culture is transmitted from one person to another via imitation, thereby becoming a replicator, much like genes are replicators.

3.2. Different Theoretical Paradigms

Four major perspectives exist in the field of meme studies, each of which explores the definition, function, and transmission mechanisms of modality from a different perspective [8]. These four perspectives focus on modality as a unit of information, thought contagion, cultural evolution, and semiotic perspectives, each of which provides a unique interpretive framework that enriches the understanding of modality theory.

Firstly, the perspective of memes as units of information is represented by Lynch and Dennett [8]. Unlike Dawkins, who believes that memes exist only in the human brain, Dennett argues that memes exist both in the brain and in objects themselves [9]. Lynch emphasizes the empirical exploration of the biological reality of memes in the brain, considering them as memory units stored in neurons and fundamental units of memory replication [10]. Secondly, the view of memes as idea contagion is represented by Gatherer, who rejects the notion of memes as information units stored in the brain. Instead, he adheres to the early definition of memes as cultural genes or imitation units, viewing them as observable cultural phenomena and denying their biological basis. Consequently, he opposes using genetic methods to explain cultural evolution. Thirdly, the perspective of memes as cultural evolution sees memes as a bridge between biological and cultural evolution, emphasizing their biological basis and cultural manifestation. This perspective highlights the similarities between cultural and biological evolution, hence exploring the evolution of cultural products and concepts and explaining how representations in the brain are created, stored, organized, and expressed. Lastly, the view of memes as symbols is represented by Deacon, who approaches the study of memes from an anthropological standpoint. And he views memes as symbols, or more precisely, as carriers of symbols, attempting to address the challenges in meme research from a biological foundation.

3.3. Core Elements of Memes

According to the above theories, memes can be summarized by two core elements: imitation and social transmission. As the basic unit of cultural transmission, memes are replicated via imitation and evolve within social networks. This transmission involves not just the simple transmission of information, but incorporates the receivers’ understanding, experiences, and innovations, leading to continuous changes and evolution of memes during their propagation. In the process of imitation, memes maintain their original characteristics through replication. However, individual differences

among imitators result in subtle variations. Despite the minor differences, each replicated meme becomes unique, enriching the overall diversity of memes. In addition, the transmission of memes is influenced by factors such as social environment, cultural background, and technological conditions. The way and speed at which memes spread can vary across different social and cultural contexts. Technological advancements, such as the proliferation of the internet and the development of social media, provide more convenient and efficient channels for meme transmission.

4. Applications of Memetics Theory in Second Language Acquisition

4.1. Interrelationship Between Meme Propagation Mechanisms and Language

The transmission of education and knowledge enables the effective replication and dissemination of memes. In particular, words, sentences, and proverbs learned from others are stored in the brain through memory and can be replicated and passed on to others during communication processes, such as teaching. This replication and dissemination of information help language spread within society. In addition, the use of language itself also facilitates the replication and propagation of memes. Information memes stored in the brain can be repeated, expanded, reduced, transformed, or recombined from old meme clusters into new ones within pragmatic contexts, which allows memes to continually evolve and be perpetually transmitted through various media. Information exchange frequently involves the spontaneous generation of content based on context, which is then widely replicated and disseminated. Linguistic myths also represent a typical form of meme propagation, with this pattern being especially prominent in online environments [8]. The development of language as a dynamically evolving organism is influenced by the brain's adaptation to memes [7]. Indeed, mnemonic transmission and language acquisition are a two-way process of selection and shaping. The process of language learning has been demonstrated to entail imitation, copying, and the transmission of memes. However, this imitation and copying is not a perfect "clone," but rather a reorganization of clusters of memes [11].

4.2. Reinforcement and Expansion of Memes

In the propagation of memes, language involves not just simple imitation and replication but also significant innovation and adaptation. The reorganization of memes preserves the basic features of the original memes while integrating novel elements and concepts, thereby enabling language to evolve and expand. Expansion refers to the evolution and adaptation of memes throughout the dissemination process. Over time, as social and cultural contexts evolve, memes undergo modifications, reconstructions, and expansions to address new societal needs and cultural paradigms. This process enriches the content and scope of memes, augmenting their vitality and adaptability. Thus, the lifecycle of meme formation corresponds with behaviorist theory, commencing with imitation, reinforced through positive feedback, and culminating in ongoing innovation and development through expansion. This framework elucidates the intrinsic relationship between memes and language, offering insights into meme propagation mechanisms and their cultural significance. Consequently, meme theory provides a robust analytical lens for understanding the acquisition of human behaviors, such as language learning.

4.3. Role of Memes in Second Language Acquisition

According to memetic theory, during the process of second language acquisition, features of the native language serve as targets for meme propagation, thus influencing learners' acquisition of the second language through replication and dissemination [12]. From the perspective of imitation, both mimicking and recitation play crucial roles in language learning. The process of learning a language

can be viewed as a form of meme replication and propagation. Effective communication in society relies on the continuous replication of language and interaction with others. The patterns of meme replication and dissemination suggest that recitation, as a teaching method, should not be discarded but rather given more emphasis and promotion. Despite its significance, this traditional method has not received the attention it deserves [13]. Besides, learners can enhance meme replication through various forms of imitation, such as songs and dubbing, thus effectively facilitating second language acquisition.

4.4. Social and Cultural Dissemination Strategies of Memes

In the context of the social and cultural dissemination of memes, research indicates that interaction with native English speakers and cultural exposure can significantly accelerate meme spread and shorten language learning time. Due to the impact of environmental factors on students' expression and communication skills, phonetic mnemonics are likely to be forgotten if limited to classroom and after-class practice [14]. Therefore, educators need to create a conducive language environment for students to increase their exposure to and use of English, better absorbing and disseminating memes. This can be achieved by organizing various English corners, cultural exchange activities, and encouraging participation in international exchange programs. In such an environment, students can not only improve their speaking and listening skills but also gain a deeper understanding of English-speaking cultures and social customs, which in turn enhances their ability to comprehend and spread English memes. Additionally, the use of modern technology can further broaden students' language environments.

Therefore, the selection of appropriate mnemonic materials is essential for the effective dissemination of memes and language acquisition. The introduction of thematic materials enables students to describe sensory experiences, specific vocabulary, and rhetorical devices, thereby facilitating their entry into the English language context and enhancing their language acquisition [15].

5. Conclusion

In this paper, the mechanisms of language learning and transmission are explored from a memetic perspective, revealing the crucial role of meme replication and transmission in second language acquisition. Memetic theory offers a deeper understanding of how language is transmitted among learners through imitation, dissemination, and cultural exchange. Research indicates that language learning is not merely a passive reception of existing linguistic knowledge but an active process of innovation and adaptation, with memes playing a central role in this process. The use of memetic theory presents new ideas and directions for future language teaching. And the dissemination and application of linguistic memory can be effectively promoted through the introduction of memory imitation, the enhancement of the selection of memory-reinforcing materials, and the use of modern technological means to create an interactive linguistic environment. Furthermore, cross-cultural meme transmission and interaction open new opportunities for language learning, particularly in the context of globalization, where memetic theory provides support for both linguistic diversity and universality. Further research should explore how memes can be transformed into strong memes in teaching practices, particularly to enhance memory retention and learning efficiency in second language acquisition. Through this approach, memetic theory provides a theoretical foundation for language teaching, and guides the innovation and optimization of teaching methods.

References

- [1] Zhang, Y. (2009) *Implications of Modal Theory for College English Listening and Teaching*. *Journal of Xi'an International Studies University*, 17(01): 111-113.
- [2] Hutchinson, T. and Waters, A. (1987) *English for Specific Purposes: A Learning-Centered Approach*. Cambridge University Press.
- [3] Yassin, A.A., et al. (2019) *Integrated Model for Teaching Language Skills*. *International Journal of English Linguistics*, 9(5): 89-97.
- [4] Jonassen, D., (1991) *Objectivism versus constructivism: Do we need a new philosophical paradigm?* *Educational Technology Research and Development*, 39(3): 5-14.
- [5] Hoover, W.A. (1996) *The practice implications of constructivism*. *SEDL Letter*, 9(3): 1-2.
- [6] Dawkins Richard.(1976). *The Selfish Gene*.Oxford:Oxford University Press,
- [7] Blackmore, S. (2008) *Memes shape brains shape memes*. *Behavioral and Brain Sciences*, 31(5): 513-513.
- [8] He,Z.R. (2007). *Three Pragmatic Theories: Correlation theory. Compliance theory. Memetic theory* .Shanghai:Shanghai Education Press.
- [9] Dennett, D. (1995). *Darwin's Dangerous Idea: Evolution and the Meanings of Life* . London: Allen Lane Press.
- [10] Lynch, A. (1991). *Thought contagion as abstract evolution* . *Journal of Ideas*, 2:3-10
- [11] Du,J. (2006). *Memetic theory — Awakens The Traditional Foreign Language Teaching Mode* .Heilongjiang Researches on Higher Education, (4):171-172.
- [12] Li, Q. (2012). *The Memetic Perspective of Language Migration*.*Journal of Southwest University (Social Science Edition)*, 10(02):93-95.
- [13] Wang,Z.H., (2007). *An Analysis of the Psychological Internalization Mechanism of Language Memes: Lenovo and Migration*. *Journal of Gansu Lianhe University (Social Science Edition)*,,(02):86-89.
- [14] Xin,Z.Y.(2023). *Application of Memetic Theory in Speech Teaching of English Majors in Universities*. *Overseas English*, (20):103-105.
- [15] Xu,D.P.(2024). *Reading and Follow-up Writing in the Perspective of Memetic Theory*.*Liberal Arts Navigation (early ten days)*, (04):46-48.