

Analyzing the Contextual Application of Multimodality Mode in English Teaching under the Cognitive-Schema Theory of Jean Piaget

Wu Jing

*School of English Teacher Education • School of Education, Xi'an International Studies University, Xi'an, Shaanxi, 710000, China
2805894651@qq.com*

Abstract: *This paper, based on the cognitive-schema theory of Swiss psychologist Jean Piaget, discusses the contextual application of multimodality in English teaching. By analyzing Piaget's theory, this paper proposes the importance of multimodal teaching mode in English teaching and explores how to combine multimodality with Piaget's theory to promote knowledge transfer of students in real situations similar to simulated situations, thereby improving students' English learning outcomes.*

Keywords: *The Cognitive-Schema Theory, Knowledge transfer, Multimodality mode, English teaching, Contextual application*

1. Introduction

With the development of globalization, English has become one of the most important communication tools in the world. However, many students face numerous difficulties in learning English, especially in speaking, listening, and text comprehension. In order to improve students' English learning outcomes, educators and researchers have been exploring more effective teaching methods. The cognitive-schema theory of Swiss psychologist Jean Piaget provides us with a fresh perspective on how to improve the contextual application of English teaching through multimodality mode.

The schema theory holds innovative value for educational research and teaching. It emphasizes the close connection and transfer between knowledge, context, and situation. Based on the schema theory, teachers can guide and help students complete knowledge transfer, and enable students to learn how to apply what they have learned in specific situations unconsciously.

When people interact with the learning environment, and when multiple sensory systems participate in the interaction with the environment and objects simultaneously, we refer to this model as multimodal.^[1] Multimodal English teaching, as a teaching concept, is applied in college English classrooms with the support of network media technology. Teachers use various forms of expression such as language, text, and images to interact with students, stimulating student participation and enthusiasm in class and helping students develop the ability to use multimodal means for reading comprehension.^[2] The multimodal model creates a good scenario application for English teaching and learning. This model uses the scenario function to increase memory points during the learning process. The exploration and research on the contextual application of multimodal mode in English teaching create an innovative path for the English teaching system, helping educators inspire students to effectively input and output knowledge, enabling students to obtain more sensitive brain response ability in a scenario-based learning space, and strengthening the reaction connection between English learning and actual use.

2. Analysis of the Importance of Multimodal Mode in Creating Contextual English Teaching

2.1 Analysis of the Current Shortcomings in English Teaching

The connection between "learning" and "using" cannot be established effectively. There are mainly two reasons for this. Firstly, teachers overly focus on knowledge itself during teaching while students often pay less attention to practical application, resulting in a situation where many traditional English

teaching activities only help students accumulate words and sentences but struggle to apply them in real-life situations. This often leads to a phenomenon known as "mute English". Secondly, due to English being a foreign language subject, it is difficult for learners to receive direct language learning environments in China. Even after students acquire the language, they lack opportunities for communicative practice scenarios. As a result, the output ability of students is hindered as they are isolated from the input-output process of learning English. The monotonous English teaching model fails to stimulate and engage students' memory connections, leading to long response times and low information retrieval capabilities in real-life scenarios.

2.2 Analysis of the Advantages of Multimodal Mode

Multimodal mode refers to the use of various types of teaching resources and methods to meet different learning needs during the teaching process. Currently, people advocate multimodal teaching, which involves interactive teaching through multiple senses. As a language discipline, English requires teachers to stimulate students' multiple sensory systems during the teaching process to enhance teaching effectiveness, improve the quality of knowledge absorption, and deepen student memory. This mode emphasizes the diversity and flexibility of teaching resources, contributing to increasing students' interest and initiative in the learning process. In English teaching, the application of multimodal mode plays a positive role in helping students understand and master language knowledge as well as improving their communication skills. Multimodal English teaching creates a novel teaching model that creates immersive learning contexts through visual, auditory, and tactile interactions. This teaching method facilitates teachers in developing teaching resources, delivering language information to students in an interesting and vivid way, and helping them master knowledge.^[3]

In English teaching, the application of multimodal mode has a positive impact on students' learning outcomes. Through multimodal contextual English teaching methods, students can intuitively experience the expression of language, thus better understanding and applying what they have learned. Compared with traditional teaching models, multimodal English teaching is more engaging and lively, stimulating students' interest and motivation. By utilizing multimedia technology, teachers can integrate various forms of language materials such as images, audios, and videos, making the teaching content richer and more diverse. This comprehensive teaching resource not only enhances students' understanding abilities but also cultivates their sensitivity to observation, memory storage, and critical thinking skills. In conclusion, multimodal English teaching is an innovative teaching model that promotes active student participation and learning. Due to its emphasis on multidimensional sensory engagement and contextual learning, students can better comprehend what they have learned during the input stage and form a deep impression of the content. The application of multimodal mode in English teaching creates flexible and vivid learning contexts that facilitate cognitive reactions among students during simulated scenarios and similar real-life situations, promoting positive knowledge transfer. This mode endows English language learning with greater depth and practical significance.

3. Analysis of Practical Application Cases of Multimodal Mode in English Teaching and Learning

The University of Michigan in the United States has offered a course called "Multimodal Language Center", Shanghai Jiao Tong University Foreign Language College in China has offered a course called "Multimodal English Teaching Methodology", and the Language Center at the University of Queensland Technology in Australia and the Language Center at the University of Cambridge in the UK have offered "Multimodal Intercultural English" courses, respectively. Secondly, based on the multimodal theory, many contextual English learning software applications have emerged, such as the "Baicizhan APP" and "Shanbay APP", which are English learning software applications based on the multimodal mode. These applications adopt various teaching modes, including images, audios, videos, and multiple learning modes like vocabulary memorization, listening exercises, and speaking practices. The innovative functions in these software applications from a multimodal perspective greatly enhance the fun and effectiveness of word learning through the collaborative use of different modalities. The unique innovation of the multimodal learning mode allows users to learn English words and phrases in various ways, such as picture-based vocabulary recognition, tone-based vocabulary selection, and visual-word selection. These features are designed based on a multimodal perspective to help learners learn English more vividly and interestingly.

The development of these multimodal courses reflects the situational application of the multimodal

mode in English teaching and practice, presenting significant value and inspiration for the development of English curriculum design and teaching methods. The aim is to teach English through various methods, including speaking, listening, reading, and writing. Students can learn English through multidimensional new media forms such as picture presentations, dynamic audio and video content, etc. This helps them understand and master English knowledge more vividly. In addition, these courses also utilize online learning platforms and social media technology tools to facilitate students' learning and communication. This multimodal teaching approach not only improves students' English proficiency but also cultivates their information retrieval skills within a conducive English learning environment. Besides traditional teaching methods, these multimodal English contextual learning courses also incorporate VR virtual reality technology to enable students to engage in English communication in simulated environments, thereby enhancing their oral and listening abilities.^[4] Moreover, these courses emphasize the cultivation of students' comprehensive language usage capabilities and intercultural communication skills, providing a solid foundation for their future learning and work. This teaching method based on the multimodal mode enables students to better cope with real-life English communication scenarios and improve their practical English application level.

4. Combining the Multimodal Mode with Piaget's Theory to Suggest Suggestions for the Situational Application of English Teaching

Based on Piaget's cognitive development theory, we can apply the multimodal mode to English teaching to enhance the situational and practicality of teaching. Specifically, we can achieve this goal through the following ways:

4.1 Establish a Real Language Environment (or Simulate Language Contextual Training)

Teachers should create an English learning environment that is close to the real world as much as possible for students, allowing them to learn and use English in actual situations. This way, students can better integrate what they have learned into real life and improve their pragmatic abilities. For example, in English oral class teaching, when learning about the theme of "Technology and Daily Life", teachers can guide students to practice in real-life scenarios and assign roles for students to simulate online shopping scenarios through dialogues and demonstrate how to shop online using mobile phones. If necessary, teachers should require students to use appropriate gestures, facial expressions, etc. The multimodal mode with multisensory participation provides students with an immersive learning experience. Through the application of the multimodal mode in English teaching with situational context, students can not only master the knowledge unconsciously in a subtle way, learn how to express and use words like "shopping cart", "order", "balance", "express delivery", and "return", but also apply the knowledge skill fully in similar real-life situations compared to simulated scenarios.

4.2 Adopt Diverse Teaching Resources

Teachers should select appropriate teaching resources based on students' ages, interests, and cognitive levels, such as pictures, audios, videos, etc. This can fully stimulate students' learning motivation and help them understand and remember English knowledge in a flexible and interesting way at a higher rate. When learners are in the output stage of English, the multimodal learning media such as pictures and videos from previous learning processes can help students quickly evoke related memory points in their brain areas, establish interaction connections between knowledge and context, simulated scenarios, and similar real-life situations, thereby better adapting to the application stage of knowledge. Before teaching courses, teachers usually use network resources and multimedia technology to design a set of multimedia courseware with audio, visual, and tactile elements integrated. This courseware is not just a simple collection of knowledge points, but a carefully designed English learning scenario. Typically, this scenario simulates a real language scene, allowing students to understand and comprehend what they have learned through various forms of help.^[5] For example, when teaching social and cultural courses in English-speaking countries, because of the differences in language and culture between English and Chinese, students cannot well understand the term "stereotyping". Teachers can organize students to perform dramas or other forms of interpretation combined with online videos to interpret abstract examples like "British people are always very gentlemanly" and "French people are always very romantic". Using this multimodal teaching model can help students understand stereotyping more intuitively and specifically.

4.3 Design Interesting Interactive Activities

Teachers can design some interesting interactive activities to enable students to learn and use English during the process of participation. This approach can not only enhance students' communicative ability but also improve their thinking and creativity skills. In the context of multimodal mode in English teaching, video multi-role dubbing is a more common activity. Based on the multimodal mode, students can experience various elements of dialogue such as speech, intonation, emotions, and so on in an immersive manner when dubbing characters in videos. For example, during the learning process of an English translation course, Chinese students may have difficulty understanding the ironic connotation reflected by "British humor". Teachers should utilize a multimodal teaching method to create a simulated language usage scenario for students and help them truly understand and appreciate the connotation of "You have been drenched like a chicken splashed with water." in the literal statement "It's raining heavily outside!" By designing interesting interactive activities, we can unleash the unique value of the situational application of multimodal mode in English teaching.

4.4 Encourage Students to Engage in Collaborative Learning

Teachers should encourage students to work in groups and engage in discussions and exchanges to improve their English proficiency. This approach can cultivate teamwork spirit, as well as promote communication and problem-solving skills among learners. Under Piaget's theory of schema, the situational application of multimodal mode in English teaching encourages interactive English learning through multiple senses, pathways, and a combination of physical and mental engagement. In the context of multimodal teaching, interactive English instruction emphasizes interaction and communication between students and teachers, aiming to enhance English proficiency. Through multimodal interactive English learning, students can comprehensively master the skills of listening, speaking, reading, and writing, as well as language knowledge such as grammar, vocabulary, and phonetics.

5. Challenges Analysis and Prospects for Future Research on Situational Application of Multimodal English Teaching

With the development of technology and the renewal of educational concepts, multimodal mode has become a trend in English teaching. In this teaching model, students can learn English through various media forms such as videos, audios, pictures, etc., thus gaining a more vivid understanding and mastery of English knowledge. At the same time, teachers can also utilize technological tools such as online learning platforms and social media to assist teaching, enabling students to learn and communicate more conveniently. However, there are still some challenges faced in applying situational application of multimodal English teaching under this model.

Teachers need to possess certain technical skills and practical experience in order to effectively apply the multimodal teaching model. For some teachers who lack relevant experience, they may feel overwhelmed or unsure of how to reasonably utilize these technological tools. Therefore, schools should strengthen the training and support for teachers, enhancing their technical proficiency and teaching ability. Secondly, multimodal English teaching under this model requires more resources and equipment support. For instance, students need devices such as computers, tablets, or smartphones to engage in online learning and communication. Additionally, teachers need to prepare teaching materials and courseware in various media formats, along with corresponding technical support and services. Therefore, schools and educational institutions should provide sufficient resources and equipment support, actively create interactive learning spaces, smart classrooms, and other learning environments, and ensure the smooth implementation of the multimodal teaching model. Furthermore, multimodal English teaching under this model also requires more personalized and differentiated teaching strategies. Since each student has different learning styles and abilities, teachers need to develop corresponding teaching strategies and plans based on the actual learning level of each student. For example, for some students who have weaker listening skills, teachers can provide more listening practice materials and opportunities. For some students who have strong oral expression abilities, teachers can provide more opportunities for oral practice and scenario simulations. Therefore, teachers need to constantly adjust and improve their teaching methods and strategies to meet the needs and requirements of different students.

The situational application of multimodal English teaching under this model has great potential and development prospects. In future research, we need to further explore and improve the theoretical and application methods of this teaching mode, as well as face and solve the challenges and problems it presents. Only in this way can we better promote the development and progress of English education.

6. Conclusion

This paper explores the situational application of multimodal mode in English teaching based on Piaget's Cognitive-Schema Theory. Through analyzing Piaget's theory, it is significant for improving the effectiveness of English teaching with multimodal mode. Therefore, during the English course teaching process, teachers should fully consider the students' cognitive development characteristics, actively develop rich teaching resources, and create multiple-dimensional simulated scenes that are suitable for English language use and similar to real situations. The situational application of multimodal mode in English teaching encourages teachers to adopt diversified, multisensory participation, immersive teaching methods, create a real language environment, design interesting interactive activities, and encourage collaborative learning to improve students' English learning outcomes. In the context of the new era, higher requirements are placed on education. At the same time, research progress in the field of multimodal language teaching is rising. English education and learning should also grasp the opportunities and challenges of the situational application of multimodal mode.

References

- [1] Ma Lifeng. *Innovative Application of Multimodal Teaching Model in College English Teaching* [J]. *English Square*, 2020 (15): 91-93. DOI: 10.16723/j.cnki.yygc.2020.15.026.
- [2] Zhen Zhen. *Research on Flipped Classroom Mode in College English Phonetic Teaching* [J]. *Journal of Hubei Open Vocational College*, 2020, 33 (12): 171-172.
- [3] Guo Zhen. *Research on Practical Path of College English Teaching Based on Multimodal Theory* [J]. *University (Research Edition)*, 2021 (15): 146-148.
- [4] Stéphanie P, D. A S, Petros L, et al. *Multimodal teaching, learning and training in virtual reality: a review and case study* [J]. *Virtual Reality & Intelligent Hardware*, 2020, 2 (5).
- [5] Xu Lan. *Innovation and Change of College English Teaching Model with the Help of Information Technology - Review of "Multimodal Teaching Model Framework in the New Media Age"* [J]. *Chinese Journal of Science and Technology*, 2022, 17 (07): 839-840.