A Multimodal Analysis of Teachers' Two-handed Gestures in English Vocabulary Teaching

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Abstract: This paper selected a video from an English vocabulary teaching course and analyzed the teacher's two-handed gestures, class discourse, and teaching procedures based on a multimodal discourse analysis framework. The researcher tried to explore the use of two-handed gestures in English vocabulary teaching classrooms and the relationship between gestures, teaching procedures, and discourse. It was concluded that beats are the most frequently-used gesture in this class which play an important communicative role in teaching as well as supports the teacher's discourse. It appears frequently when the teacher's discourse switches between two languages. This study enriches the corpus of pedagogical research applying multimodality and can provide a reference for the development of multimodal teaching.

Keywords: English vocabulary course, Multimodal discourse analysis, Gestures

1. Introduction

In recent years, the study of English teaching classes from a multimodal perspective has attracted increasing attention. Based on an English vocabulary teaching video clip, the researcher annotates the hand gestures and speech used by teachers in classroom with EALN and explores the relationship between the teacher's two-handed gestures, discourse, and teaching procedures from the perspective of multimodal discourse analysis. Therefore, the characteristics and interactive meanings of gestures in English vocabulary teaching can be summarized and it is able to provide suggestions for implementing multimodal teaching. This research combines the theory of multimodal discourse analysis with English teaching practice, which also helps to enrich the corpus of multimodal analysis and provides a reference for the development of multimodal teaching.

2. Research Background

2.1. Gestures

A gesture is the movement of the body or any part of the body to express a certain thought or emotion. Specifically, gestures have four characteristics that distinguish them from other actions [1]: organizational feature of "home-away-home", peak-shaped structure, the preparation-stroke-recovery phase, and symmetrical feature. McNeill [2] divided gestures into four basic types: beats, indicative, iconic, and metaphorical gestures. Beats include flicking up and down

of the hands or tapping actions to emphasize certain words. They are used as interactive gestures to adjust the speaking turn, and seeking or requesting responses or acknowledging understanding [3]. Indicative gestures are used for concrete or abstract instructions. The combination of indicative gestures and instructional speech can play an important role in classroom interaction [4]. Iconic gestures are hand and arm movements that depict specific objects and events. The image referred to by metaphorical gestures is abstract, and the metaphorical gestures correspond to the original metaphors or conceptual metaphors contained in the discourse.

At present, much attention has been paid to gesture research involving multiple research topics which include the impact of the application of sign language on the mind [2] and how gestures promote thinking [5], the effect of gestures on speech [1], the connection between gestures and second language acquisition [6], and the role of metaphorical concepts in gesture understanding and research [7,8]. In terms of gestures and second language teaching, some scholars are concerned about the role of teachers' gestures and other non-verbal behaviors in understanding discourse [9]. The use of gestures also plays an important role in showing and correcting students' understanding of second language vocabulary and grammar [10].

2.2. Multimodal Classroom Teaching

Classroom teaching is completed by a variety of models [11], each of which is a symbol system that expresses meaning in the appropriate context and achieves the purpose of communication. In language teaching, although language is still in a dominant position in most cases, it is also flawed to study classroom discourse from the perspective of language alone. Therefore, multimodal discourse analysis integrates symbol resources and analyzes the process of multimodal collaboration and participation in meaning construction, which to a large extent breaks the limitations of discourse analysis that simply analyzes language.

The theoretical basis of multimodal discourse analysis is system functional linguistics [12,13] and social semiotics [14]. In spite of theoretical exploration of foreign language teaching design from a multimodal perspective [15,16], researchers mainly examine the effect of multimodal teaching models on the development of language skills. Among them, writing is the most researched [17,18]. Besides, researchers also studied the impact of multimodal teaching on students' reading comprehension [19,20], multimodal oral expression skills [21].

From previous studies, it can be concluded that research on gestures in second language teaching pays more attention to the role of gestures in enhancing the understanding of teaching content and the manifestation and function of metaphorical gestures in the classroom. However, there are few studies on the relationship between teachers' gestures and oral interaction in foreign language teaching and their relationship with the classroom from a multimodal perspective. On this basis, this research will analyze one teacher's two-handed gesture interaction in English vocabulary classes from a multimodal perspective.

3. Methodology

The corpus of this study is an English teacher's vocabulary teaching video of the Basic English-1 Course in a university. There are 43 students who are freshmen majoring in English. The textbook used is the first volume of *Modern College English-1* and the content is Unit 6 "*Wisdom of Bear Wood*". The total length of the teaching video is 30 minutes and 6 seconds. The classroom is equipped with a computer that can play PowerPoint. In the perspective of multimodality, the classroom contains multiple modals such as images, texts, sounds, and teachers' gestures and facial expressions. In this study, only oral modal and two-handed gestures are selected as the research objects. This video is a natural performance presented by the teacher in class, which is conducive to

obtaining real and effective information. The main research questions are: (1) What are the types of two-handed gestures used by teachers in English vocabulary teaching, and what are their roles in the teaching procedures? (2) What is the relationship between the two-handed gesture models in the English vocabulary teaching class and the teacher's discourse? This research will use the EUDICO linguistic annotator (ELAN) to mark and add annotations to two-handed gestures in this teaching video. The annotation is mainly divided into three levels: the teacher's language when the gesture occurs, the type of the gesture, and the teaching procedures when the gesture occurs.

4. Findings and Discussion

The teacher shows a total of 53 two-handed gestures in the 30-minute class video. According to the classification of gestures by McNeill [2] , the researcher classified these gestures and analyzed the frequency of these gestures in different teaching procedures to analyze their roles in different teaching procedures. Secondly, the researcher statistically analyzed the two-handed gestures and speech characteristics of the teacher's speech when switching between Chinese and English, and finally analyzed the classroom communication significance of beats which is the most frequent two-handed gestures.

4.1. The Relationship Between Teacher's Two-handed Gestures and Classroom Procedures

The researcher divided the vocabulary teaching procedures of this video into four parts: pronunciation, meaning explanation, examples, and knowledge extension. In different teaching procedures, the types of hand gestures used by the teacher are different. The researcher counted the frequency of different gestures used by teachers in the four procedures and found that the types of gestures that appear frequently in different teaching procedures are various.

The frequency of beats is the highest, accounting for 52.8% of the entire two-handed gestures. In English vocabulary teaching classes, teachers need to emphasize the pronunciation and meaning of vocabularies repeatedly, thus the teacher strengthens students' awareness through interaction with students [22]. As an interactive gesture, beats are used to adjust the speaking turn, seek or request a response, or acknowledge understanding [3]. Therefore, the high rate of beat frequency is in line with the characteristics of English vocabulary teaching.

From the perspective of teaching, the teacher uses the least two-handed gestures in the pronunciation procedure while most two-handed gestures are used in the explanation and examples procedures. Indicative gestures are more evenly distributed in each teaching procedure. The main role of iconic gestures in English vocabulary teaching is to use gestures to assist in describing the meaning of words. The teacher's iconic gestures are mainly used in explanation and knowledge extension procedures. Metaphorical gestures are mostly used in the expression of abstract concepts such as mathematical concepts [23]. Since there are fewer abstract meanings to be expressed in foreign language vocabulary teaching, the frequency of metaphorical gestures used by the teacher is lower than that of other gestures, which is also a feature of foreign language vocabulary teaching.

4.2. Analysis of the Teacher's Two-handed Gestures When Switching Languages

One of the characteristics of this English vocabulary classroom is that the teacher uses two languages to teach. The researcher found that the teacher is accompanied by some hand gestures when switching between Chinese and English. In this video, the teacher make a total of 10 hand gestures when switching between Chinese and English. The teaching procedures for these 10 gestures are all appeared in examples and meaning explanation procedures. The teacher switches from Chinese to English 9 times, and switches from English to Chinese once. The accompanying gesture types are all beats. The researcher watched another English grammar MOOC video and

found that the teacher in the MOOC video mainly explains in Chinese throughout the whole process, but when he talks about a certain grammatical term, he would speak the term in English, and it is accompanied by beats. The teacher in the video also has similar performance and effect when switching between Chinese and English. Therefore, the teacher switching from Chinese to English is to emphasize the pronunciation of this word and the importance of this word that the students need to master. The researcher named some examples with the transcription system in multimodal discourse analysis [24].

Example 1:

01 Teacher: He refused the hand I extended in friendship; (Chinese)

02　　　　　We could understand like that; (Chinese)

03　　　　　the hand I extended in friendship; (English)

$$| \sim ******** |$$

04 →　　　　　This does (-) not really mean to really, literally take your hand; (Chinese→English)

At 2:46 in this video, the teacher is explaining the example sentence of the word "extend". The beat gesture and words "really, literally" occur simultaneously. The teacher does not show any gestures when explaining in Chinese, but switches to English when expressing the meaning of "not really extending your hand", and the switching is accompanied by beat gesture. The purpose of the teacher's switching to English is to help students to understand the abstract meaning of extending hand and to emphasize not to misunderstand the meaning of the phrase based on the literal meaning. At this time, the teacher's beat gesture is to send a signal to the students: this is an important information.

Furthermore, when the teacher switches from Chinese to English, the beats that appear also have a special effect: to relieve embarrassment and adjust her own speech turn.

Example 2:

01 Teacher：She lies in the bed; (Chinese)

02　　　　　The word "in" is quite appropriate; (Chinese)

$$| \sim **-.|$$

03　　　　　The feeling of trapping in; (Chinese)

$$|********-.-.|$$

04 →　　　　　Because it is（1.0）pretty weak，(English)

05　　　　　She lies in her bed; (Chinese)

At 9:00, the teacher is explaining the example sentence of the word "frail". When the teacher is saying "because it is pretty weak", the teacher switches from Chinese to English, and the beat gesture appears. It can be seen that the teacher immediately realizes that she has said something wrong (it should be "she is pretty weak"). After saying "because it is", she pauses but does not correct herself and finishes her words. Instead, she adds "pretty weak". The gesture at this time can be understood as the teacher's grammar error when switching from Chinese to English, and the use of the gesture is to ease the embarrassment and adjust herself so as to complete the sentence.

It can be concluded that the teacher's beat gesture when switching between Chinese and English has two main functions. The first is to emphasize the importance of the words at this time and remind students to pay attention to the content of the words. The second is to coordinate the unsmooth speech when switching between Chinese and English. At this time, the beats are not communicative and not helpful to the teaching content and the classroom.

4.3. Analysis of The Communicative Effects of Two-handed Beat Gestures

The most frequent gesture used in this video are beats. Bavelas defined beats as communicative gestures [3]. These communicative gestures have the following four functions: marking the delivery of information, citing the others' contribution, seeking response, and turning coordination. The class is a special communicative scene. So, according to Bavelas's classification of communicative gestures, the researcher will analyze the classroom communicative role of two-handed beat gestures in the vocabulary teaching classroom.

Most of the beats' function is marking the delivery of information, which is also one of the most important functions of beats. Most of the words along with gestures are English words, and these words are key words that students need to master, which shows that the interactive meaning of beats at this time is to remind students that this is a word or meaning that needs to be mastered. That is the reason why there are most beats in the vocabulary class. For example, when the teacher is explaining the meaning of "extend", the teacher rereads "distance, time", and it is accompanied by beats which suggest that one of the meanings of "extension" is the extension of distance and time, so this gesture serves marking the delivery of information effectively.

The beats which are to seek response appear less frequently. At 4:55 in the video, when the teacher is explaining the first meaning of "familiarity" – "a thorough knowledge of something" (PowerPoint content), the teacher says, "What is thorough knowledge? Very thorough...thorough is comprehensive Meaning." She first asks students "what is thorough knowledge?", and pauses. Seeing that students do not respond, she continues to say "very thorough", but students still do not give an accurate response, so she switches to Chinese and says: "Thorough means comprehensive". When she says "very thorough", she makes the action of beat gesture in order to imply that what she mainly wants to point out is the meaning of "thorough" and to emphasize the importance of this word for understanding the word "familiarity", so she makes beat gestures. The action of beats implies that she tries to seek answers from the students again. At this point, this gesture is seeking response. In the interactive scene of the classroom, the teacher is in the dominant position of the interaction, and the teacher's words and gestures are complex and diverse. Therefore, if the teacher needs to seek a response, it is more inclined to use more explicit and indicative gestures instead of a beat gesture.

Similarly, there are beats that turn coordination which only appeared once in this video. The teacher makes a beat gesture when saying "It's not like that", and then ends this topic and begin to explain the next point. The gesture at this time is to help to jump to the next topic. In the classroom, teachers usually choose to use words to promote the teaching process or to end their words instead of gestures that are not obvious enough. Therefore, the beats for this role appear little in the classroom. There is no beat of citing others' contribution in this classroom. The reason is that classroom teaching is an interactive scene dominated by the teacher's words and there is less student discourse, so there are fewer beats of citing others' contribution, which on the other hand shows that students' words in the classroom are not enough.

The communicative gestures in this vocabulary teaching video basically conform to the classification of communicative gestures by Bavelas [3]. Different from the daily communicative scene, in the special communicative scene of the teaching classroom, gestures playing the role of marking the delivery of information are the most while other types of functions appear less because the teacher uses more non-communicative gestures such as indicative and iconic gestures instead of implying communicative gestures that only indicate to convey a clearer meaning to students. It is worth noting that the beats in example 2 are not communicative gestures, because the role of these gestures is only to coordinate the teacher's own words. Therefore, in the class, not all beats are communicative gestures.

5.   Conclusion

To conclude, the beat gestures play the role of emphasizing the teaching content and regulating the teacher's discourse in English vocabulary teaching. Indicative gestures help promote the teaching process, and the iconic gestures are mainly used in the meaning explanation procedures to help students understand the meaning of words. A feature of English vocabulary classroom is that teachers usually switch between Chinese and English frequently, accompanying with beat gestures. At this time, the role of gestures in the classroom is to emphasize the knowledge points and to remind students to pay attention to the content of the discourse or to coordinate the unsmooth discourse of the teacher when switching between Chinese and English. The beat gestures in this class also have communicative significance. Among them, the beats with the communicative function of marking the delivery of information account for the majority, while other communicative gestures are few. Moreover, in this class, not all of the beats have a communicative effect.

This study analyzes the teacher's two-handed gestures and discourse in English vocabulary teaching and combines the theory of multimodal discourse analysis with English teaching practice, which provides a reference for gesture study in classes. However, this research only studies two-handed gestures of a teacher in English vocabulary teaching. In the future, studies of one-handed or other types of gestures with more research objects can be conducted, so that the multimodal discourse analysis can realize common development both in theory and practice.

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