

Meaning Construction of Multimodal Discourse in High School English PPT Courseware—A Case Study of the 10th National Demonstration Lectures for High School English Teachers^{*}

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Abstract—This paper will be devoted to meaning construction of the lead-in part in 30 PPT courseware for the 10th national demonstration lectures for middle school teachers. Based on the meta-function proposed by Halliday, taking the lead-in part as the analyzing material, this paper will apply multimodal discourse analysis theory to answer the following questions: (1) what are the multimodal features of the lead-in part? (2) how can these multimodal features co-construct the discourse meaning effectively? (3) what are the implications of the lead-in part's PPT to multimodal PPT design and high school English teaching?

Index Terms—PPT courseware, multimodal discourse analysis, meaning construction, function

I. INTRODUCTION

In recent years, with the development of modern educational technology and the reform of foreign language teaching ideas, PPT courseware characterized by various modes (including text, images, sound, color, movement, etc) can attract learners' attention from multiple channels, and in a certain extent it can strengthen the input of language information, which has become a popular aided way for foreign language teaching. Multimodality has become one of the main characteristics of PPT courseware, and Multimodal Discourse Analysis (MDA in short) considers how texts draw on modes of communication such as pictures, film, video, images and sound in combination with words to make meaning. It has examined print genres as well as genres such as web pages, film and television programs. It considers how multimodal texts are designed and how semiotic tools such as color, framing, focus and positioning of elements contribute to the making of meaning in these texts (Hyland, 2017, p170).

After a brief view of the studies on PPT courseware in multimodal foreign language teaching at home and abroad, we can see the initial research representative of MDA is R. Barthes. He analyzes the interaction between the images and the language in his book *Rhetoric of Image* (1997). And the earliest study on PPT courseware of English language teaching is known as the US. Nowadays, there are also many excellent works in this field in China:

Li Jun and Liu Qionghua (2004) explores the ways which can use PPT to design the interactive multimedia courseware. Zhang Zheng (2010,2013) carries out a series of exploration and research to find out the influence of multimodal PPT teaching on students' learning attitude and how to effectively use the "design" to cultivate students' multi-literacies. Hu Zhuanglin and Dong Jia (2006) analyze the contest of PPT presentation used in 2005 Australian Cultural Festival of Renm in University of China. They discussed the construction meaning of multimodal PPT from the perspective of the theoretical and practical angle. According to the PPT of 30 non-English majors, Wei Qinhong (2009) finds that the current college students' multi-literacies are relatively weak. Zhang Delu (2015, 2018) has developed a new functional synthetic framework for MDA.

Although educators realize the existence of multimodality in class discourse, they presume that multimodality is the assistant expression system of language. This standpoint is opposite to the actual situation. New information and communication technologies provide a variety of semiotic resources. There are many elements in meaning-construction process, for instance, visual, auditive, spatial and other semiotic mode. In the view of this situation, it is necessary to explore how to integrate different semiotic resources in foreign language teaching to better serve the meaning construction in the whole teaching process.

II. THE SYSTEMIC FUNCTIONAL APPROACH TO MULTIMODAL DISCOURSE ANALYSIS

Systemic functional approach is well placed to provide theoretical tools for MDA because it's a social semiotic theory where the meaning is seen to be context-dependent. Up to now, the Systemic Functional theory has provided a

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comprehensive approach to language (Halliday 2002, 2004; Martin and Rose 2003). O' Halloran (2005) proposes that what should be attached to the importance are the functionality and grammar of language, visual images and mathematical symbol, and theorization of how these different choices integrate together to construct meaning. The major focus of Systemic Functional theory for MDA is Halliday's (1978, 2004) meta-functional principle, which provides a useful platform for theorizing how semiotic resources interact to create meaning.

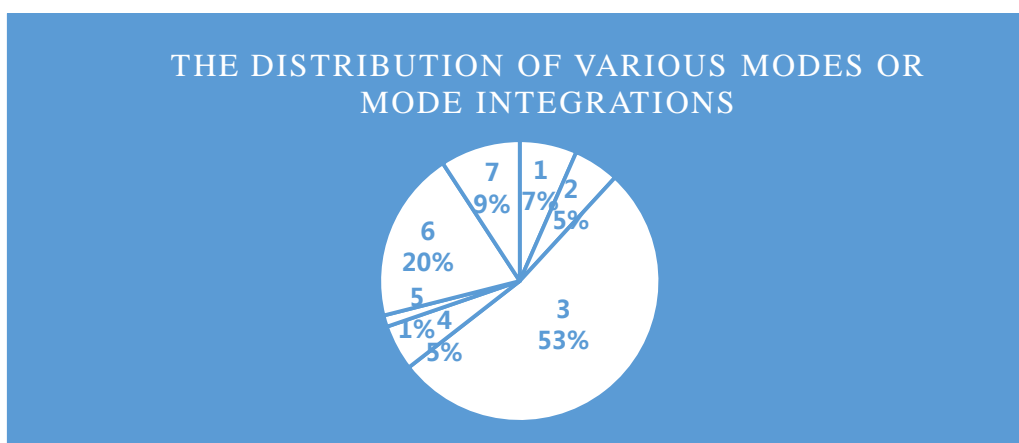
In any social semiosis, three meta-functions influence the semantic stratum, which are ideational (for representation), interpersonal (for interaction) and textual (for information flow) meta-function. Their organization is implemented on to context, and represented through three registers: field, tenor and mode. Field concerns about what is happening in social practices and the essence of the social activity; tenor deals with social relations: who is taking part in the nature of participants: their status and roles; mode refers to the role and channel semiosis plays, the expectation from the participants of these semiosis in a particular situation (Martin, 1997).

According to the PPT courseware analysis framework of Zhang Delu (2015), each PPT could be divided into three main stages: lead-in, text-learning and post-reading tasks. The text mode, graphic-text integration and audio-text or video-text integration are employed to achieve the ideational, interpersonal and textual meaning in the PPT courseware. So in this paper, we try to count the frequency of different modes in the lead-in part and then analyze the relations of different mode integrations to find its role and functions in the whole teaching process. We hope this study can bring certain reference and guidance to high school front-line teachers when they are making PPT courseware.

III. DATA COLLECTION AND ANALYSIS

A. Data Collection

In this section, it's mainly about the lead-in part's data collection of 30 PPT courseware and the distribution of various modes and mode integrations as follows.



序号	Mode or Mode Integration	Number	Ration
1	Text (highlighting & movement)	5	6.58%
2	Image & text (static)	4	5.26%
3	Image & text & movements & animation	40	52.63%
4	Audio & video & flash & text	4	5.26%
5	Single text (static)	1	1.32%
6	Single graph (static)	15	19.74%
7	Background & graph (dynamic)	7	9.21%
	Number	76	100%

B. Detailed Analysis of Some Typical PPT Slides

The three meta-functions put forward by Halliday are closely related and intertwined. Through the visual mode or auditory mode to import the text title and background knowledge related to the text subject, so as to realize the ideational function of PPT courseware. At the same time, by using the materials imported already to arouse students' interest in the subject and enthusiasm for participation as much as possible, which could realize the interpersonal function of PPT courseware. The textual meaning refers to the function of combining the ideational meaning and interpersonal meaning together to form a semantic unity. Among other things, the lead-in part as the first part of the courseware, can play a leading role in the whole courseware through the setting of teaching objectives and teaching steps, and realize the interactive function of each part, so as to realize the function of PPT courseware. So, next, we are going to analyze several typical slides of different type of mode integrations.

1. Use of text and image mode

From the table above, we find that up to 52.63% PPT slides in lead-in part are based on text and image mode

supplemented by highlighting means (color, typographic design, animation and movements). Generally speaking, text mode is the main mode with which image mode often goes. But as the table shows, the rates of single text mode dynamic and static are only up 6.58% and 1.32% respectively, which shows students' preference in class. And images could provide more vivid and visualized information than the text sometimes, which is usually used to as an assistant of the text for a better understanding.

Here are the two selected slides from the lead-in part showing the typicality.



Figure 1

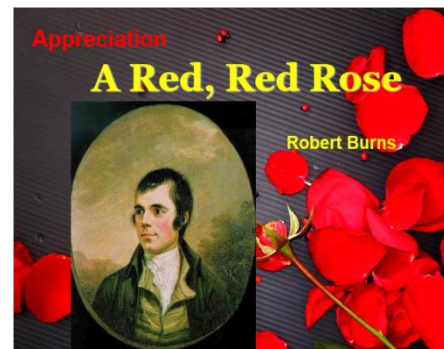


Figure 2

No. 6 courseware mainly talks about “Festivals”, so the teacher designs several pictures about different festivals to arouse students' interest (Figure 1). This slides mainly adapts pictures accompanied by words and movements. And those pictures are all about Chinese traditional festival with various customs. Text mode is used to ask questions so students could use those pictures as clues to figure out what festivals they are and what kind of activity they would do. The mode integration of text and images would help students have a better understanding about the topic and it could also attract students' attention and passion about this class. No.13 courseware is mainly about poem appreciation (Figure 2). For the title presentation, the slide mainly includes the text mode with different colors, a photo about the poet and a picture about red rose used as the background. So, this slide provides a lot of information with different modes even though there are just several words. This kind of design would be much easier for students to understand the main topic of this class and it's also much funny and interesting.

2. Use of audio and video mode

One of the most important purposes of courseware is to assist the teaching goals of improving students' communicative ability and problem-solving capability (Zhang, 2015). In order to improve their communicative ability, students firstly need to be close to the real language situation, so a lot of courseware in the first part are designed to represent some slides about film, animation, music, video and other mode resources. Those kind of modes could be more vivid and they could create a comparatively real situation which would involve students in the learning process. On the whole, the proper uses of the audio and video modes can enhance the acceptability and interestingness. Just as Hu (2007) said, these modes actually realize the designers' purpose of assisted learning. due to the rapid development and popularization of multi-medias and information technology, the audio and video modes should be adopted to PPT courseware teaching properly.

Here are another two selected slides from the lead-in part showing the typicality.



Figure 3



Figure 4

No.9 courseware applies a short piece of video at the very beginning to arouse students' interest. What's more, this video is dubbed by students before, so it's a very good instance of lead-in to introduce the topic of this class (Figure 3). Meanwhile, this video is such a household story that almost every youth and old in China knows it, which could easily arouse students' sympathy, students, therefore would get into the class quickly. No.25 also applies a piece of video to initiate its topic. Students are required to watch the video clip and then guess the main idea it mainly talks about. The teacher first gives students a task and then students will watch the video carefully with a clear purpose (Figure 4). And

we can see obviously that this video is made by the teacher himself, so it's closer to students' daily life and students would be much more interested in it, which could be more sufficient and efficient.

3. Use of single text or graph mode

Although we know different modes or mode integrations would serve better to the meaning construction of PPT courseware, this is just one of the means we could use to improve the class efficiency, they are just used as an assistant to help teachers and students cooperate better but not indispensable. And at times, only single text mode or graph mode is enough to convey the meaning what the teacher wants to transfer, the use of other modes as complement would be no good to the transformation of information, instead, it could cause the information redundancy. Therefore, the use of various modes or mode integrations should not be randomly but should be taken into careful consideration. The teacher should think about the efficacy of the mode usage and use it economically and moderately.

Here are the two selected slides from the lead-in part showing the typicality.

Speaking

I like...because...
 I like...because the game not only...
 but ... as well.
 The sport brings me...
 The sport also helps me ...

Figure 5



Figure 6

No. 30 is about a writing class (Figure 5), so at the lead-in part, the teacher just uses some sentence patterns to introduce the main point of this class, and you will find the whole PPT courseware just use text mode without none of other modes or mode integrations. That is reasonable, because about writing class, students just need to understand some sentence patterns and expressions to express their thoughts, and those patterns and useful expressions are enough for them to achieve this goal. If the teacher designs the PPT courseware with too many other modes, it could distract students' attention and make the purpose of this class unclear. The use of single text mode would concentrate students' attention and let them know what they need to learn and what kind of knowledge they need to handle.

No. 24 is also quite typical for it uses up to 13 PPT slides in the lead-in part, and all of which are images (Figure 6). Because its topic is about traveling, so at the very beginning, the teacher uses a series of pictures to show the scenery of the tourist destination which he is going to talk about latter. The teacher only uses single pictures without any other modes in order to create the traveling atmosphere for students, which would be useful to let students immerse in the mood of traveling. And from those pictures, students would have an overall understanding of the topic even without any text on it. So, it would also be a very sufficient way to use single graph in the lead-in part, which is all depend on what topic you are going to talk about.

But it also should be reminded that some visual materials in multimodal text help to establish context, which directly involves the construal of context, so it is important for the understanding of text. On the contrary, written text is also important for the interpretation of images. In multimodal discourse, written language is connected with visual images through the layout of the text, and readers need to understand the exact meaning of images under the help of text. For some readers, pictures in multimodal discourse may become the main communicative mode, and language plays an auxiliary role in it.

C. The Functions Realized by Various Modes or Mode Integrations

According to the meta-function theory of Systemic Functional Linguistics, the design and production of PPT courseware depend on three aspects: courseware content, object and structure, which correspond to ideational meaning, interpersonal meaning and contextual meaning respectively. And from the detailed analysis above, we could see that different functions are mainly realized by various modes or mode integrations, but those modes or mode integrations are not exclusive. Some mode or mode integration could serve to realize more than more functions. That is reasonable, because all those modes or mode integrations are used to realize the meaning of the whole multimodal discourse.

1. Ideational Function

The ideational meaning of the lead-in part is mainly realized through the text mode. Semiotic resources such as pictures, movements and colors are all used to make the concept of text mode more intuitive and prominent. The theme content and cultural background is dominated by text mode, or by picture, audio, video, and its main mode must be closely related to the theme. And from this we need to break the limitation of our traditional convention that only text could be used to realize ideational function. But even though the combination of text and image would realize the ideational meaning better. There are also some differences here: we need to know whether those two modes are of equal status. If image and text are independent, there could be four possible situations: exposition, extension, enhancement

and logical. If image and text are of unequal status, that is to say, either image subordinate to text, which would have two situations: exposition and extension; or text subordinate to image, namely exposition.

2. Interpersonal Function

The interpersonal meaning is mainly embodied in the introduction of content and cultural background, which is mainly based on the modes such as images and videos, and it would provide a real simulated situation and let students to actively participate in the teaching process. Students need to interact with other students or teacher or the surroundings so that they could get some information about the condition. And visual mode would be the most efficient and direct way to arouse students' emotional resonance, they could get something useful through the interaction with some certain colors or characters on images. Meanwhile, some video would also make students to think about something they are familiar with or they have experienced before, which could remind them of some background knowledge to help them make a connection between the old and the new information.

3. Textual Function

The textual meaning is realized by structure diagram, typographic design, etc. When various modes interact with each other to realize the function of discourse, they reflect the features of the multi-modal discourse genre of PPT courseware, such as systematicness, continuity and dynamics (Zhang, 2015). And from the lead-in part, most teacher would prefer to use diagram to show their teaching procedures and their goals of each step, especially in No. 21 courseware. It's a writing class, so the teacher first gives his whole teaching procedures to let students know his final destination. It is the reason why at first he just introduces some vocabularies about a certain topic and give some sentence structure, which would be useful when students start their writing practice.

4. Summary

In this chapter, a relatively detailed analysis of multimodal features has been given by discussing lead-in part of the 10th National Demonstration Lectures for High School English Teachers. And from this analysis we could see different modes or mode integrations would be used to construct the meaning of PPT courseware. As for what kind of mode or mode integration should be chosen is all depend on what kind of topic teachers are going to talk about. No matter what kind of mode or mode integration they use, it all serves to the meaning construction and transformation. Those modes or mode integrations are just used as assistant to help teachers attract students' attention and let them have a better understanding of the main idea of the class. So, moderate and sufficient use of mode and mode integration is necessary. If it hinders teacher's teaching process or students' acquisition and understanding, it should be removed.

IV. CONCLUSION

PPT courseware is just a tool used to assist teacher's teaching process, so it should be designed under the principles of efficiency and economy. With the limited vigor, teachers should know the relations and functions of different integrations of mode so as to use it more efficiently. They should choose modes properly to maximize meaning construction. The selection of modes is not arbitrary. According Royce's *Intersemiotic Complementarity*, the mutual cooperation and complement of visual mode and text mode in a multimodal discourse is necessary. So the designer should pay special attention to the synergy, strengthen and complement between different modes.

A. Major Findings

The result shows that the PPT courseware of the lead-in part mainly uses visual modes and audio modes. A good deal of utilization of the combination of image and text can transmit knowledge effectively, which can provide a multimodal learning atmosphere for students. The regular and systematical typography can make every section logical and structured. The playing of recording and videos can practice students' listening and speaking. Meanwhile, the discourse meaning of the lead-in part PPT courseware is realized by co-construction of different modes which can be reflected from three aspects, including the ideational meaning realization of image and text, the interpersonal meaning realization of image and color, and the textual meaning realization of diagram and typography. The form of image and text, however, plays a vital role in the meaning realization of inter-semiotic relations. When designing the PPT courseware for middle school teaching, choosing modes properly to maximize meaning construction and collocating modes effectively to optimize meaning construction are the vital factors which should be taken into consideration.

The development of multimodal discourse analysis has been meaningful for language teaching. Although traditional teaching has realized multimodal teaching, new technologies provide more ways to realize multimodality in class. With the integrated multimodal resources in English teaching process, quality of teaching can be improved greatly. What's more, learners can apply and experience different mode, which will improve learners' multi-literacies. Multimodality could also foster the students' social adaptation, which helps them meet the challenges from the economic globalization and cultural diversity.

B. Limitations and Suggestions for Further Studies

The research object of this paper is only 30 PPT courseware of the 10th National Demonstration Lectures for High School English Teachers, so the research sample is not big enough to summarize the universal characteristics of high school PPT courseware. And the type of each lesson is not unified, although most of them are about reading class, there are several classes about speaking, listening and writing. And the author did not exclude them. But the features of those

kinds of PPT courseware should be quite different from the reading class for it has different teaching objectives. So, although the author has tried her best to analyze those materials objectively, some subjectivity during the analyzing process could not be avoided.

At present, PPT courseware in English teaching at different stages is so prevailing and the application of multimodal discourse is becoming more and more extensive in English teaching research, those two are closely intertwined, so the author hope this study can bring certain referential value to English teachers. We do hope that more front-line teachers can integrate theory with practice to make more innovative research and discussion about the application of PPT courseware in multimodal. So teachers could better play the role of various modes and mode integrations in the PPT courseware in teaching process, and finally improve student's interest and attention, deepen their understanding of knowledge and cultivate their multi-literacies.

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