

# **A Study On The Ability Of Multiliteracies Of Students From Science And Engineering Universities In The Multimodal Teaching Context**

Ge Liu

School of Foreign Languages, East China Jiaotong University, Nanchang, Jiangxi Province, China

**Keywords:** College English; Multiliteracies; Multimodal Teaching

**Abstract:** With the rapid development of information technology today, the way of communication between people is undergoing rapid changes. Multimodal discourse theory provides a reference point for the reform of College English teaching. This paper takes the concept of multiliteracies as an entry point, and makes an investigation on the students' ability of multiliteracies in the environment of multimodal teaching.

## **1. The Ability of Multiliteracies**

The concept of multiliteracies is proposed by the New London Group composed by the representatives from the United States, the United Kingdom and Australia. The study of multiliteracies is mainly based on two hypotheses: one is that people communicate through a series of different symbols; the other is that each symbol expresses its meaning in a similar way to that of language, although this law is not the same as oral and written language[1]. In 1996, the group published a landmark paper entitled "A Pedagogy of Multiliteracies: Designing Social Futures" in Harvard Educational Review. This paper is not only the programmatic Manifesto of the New London Group, but also the first work in the field of the research on multiliteracies. After the concept was put forward, it aroused the research interest of the academic community. The representatives were Williamson, Thwaites, Kress, Jewitt, Ogborn, Tsatsaterelis, Unsworth, etc.

Domestic research started relatively late, and it was reported only in 2006. So far, there had been no national large-scale research like abroad, and there weren't so many research results, mostly in the form of papers, and few monographs. Representatives were Hu Zhuanglin, Zhu Yongsheng, Zhang Delu, Wei Qinrong, etc. These scholars introduced multiliteracies from different perspectives and put forward their own views. For example, Hu Zhuanglin and Dong Jia believed that the reading and writing ability cultivated by traditional teaching methods was not enough in the multimedia era, so it is necessary to strengthen the cultivation of the ability of multiliteracies[2]. Later, some scholars began to discuss how to cultivate students' ability of multiliteracies. However, the research on the ability of multiliteracies is still important and urgent in our country nowadays, there is still a lot of research space in the application of multimodal teaching theory, and the research scope, breadth as well as depth still need to be expanded.

Different scholars made different definitions of the ability of multiliteracies according to their own understanding. Gamble and Easingwood believed that literacy today was not a functional level of reading and writing any more, but the ability to obtain resources, create resources and use resources to communicate with others through electronic networks[3]; Williamson believed that multiliteracies referred to the ability to read information provided by various media and modalities and Gentle believed that the ability of multiliteracies included language, vision, hearing, posture and space[4]. Hu Zhuanglin, a famous Chinese scholar, believed that multiliteracies included cultural literacy and technical literacy. He also believed that familiarity with new types of multimodal electronic technology was also an aspect of measuring multiliteracies[2]. To sum up, this paper interprets the ability of multiliteracies as follows: not only the traditional reading and writing ability, but also the cultural, visual, auditory, spatial, posture and other literacy abilities in the modern information network era.

## **2. A Survey of College English Students' Ability of Multiliteracies**

## **2.1. Research Background**

Since the implementation of English teaching reform in colleges and universities, they have actively used modern information technology, especially network technology as the support. Hence, English teaching and learning can, to a certain extent, be independent of time and place, and develop towards personalized and autonomous learning. This study takes one of the four well-known universities in Jiangxi Province as an example, which attaches great importance to English teaching and research. In this university, College English is a compulsory basic course. Under the guidance of the Higher Education Department of the Ministry of Education and the Jiangxi Provincial Education Department, the teaching idea of College English curriculum has undergone a process of continuous improvement. The development of content, single mode as well as single method to the design of curriculum system, the cultivation of autonomous learning ability, and the construction of multimedia network teaching environment have provided a good external environment for the teachers. Some teachers have also begun to actively explore how to use these modern information means to carry out multimodal teaching and to cultivate students' ability of multiliteracies. But what is the overall situation of students' multiliteracies in the environment of multimodal teaching? Are there differences between liberal arts students and science and engineering students, as well as between freshmen and sophomores?

## **2.2. Research Object**

In view of the above problems, three classes were randomly selected for the test. The university implemented a graded teaching model, and the students were divided into class A and class B according to the scores of the college entrance examination and the entrance English grading examination, so that the students in each class had nearly the same English level. The randomly selected classes were coming from class B, in which two classes were freshmen and sophomores from a certain science and engineering college of the university, and the other class was from the freshman class of a liberal arts college of the university. There was little difference in the number of students in each class, which was about 60.

## **2.3. Research Material**

The research materials were designated as the college English textbooks used in the university. This test took one of them: Book one of "New College English: Watch, Listen and Read" published by Shanghai Foreign Language Education Press. The content was selected that all the students in the three class had not learned, and the test was conducted in the language laboratory of the university.

## **2.4. Results and Discussion**

In this study, 60 students were randomly selected from each class and divided into three groups with 20 students in each group. The rest of the students chose the way of the test by themselves, and their scores were not included in the statistical results. The first group received English pure text reading materials. The teacher converted the video in the original textbook into text form, and the students did not watch the video or listen to the sound, but only looked at the text materials; the second group received the pure audio listening materials; the third group got the video materials with sound but with no text. The three groups of students were required to complete the test of judging the correctness and error of sentences and answering questions within the specified time. There were ten questions for the two major question types, with total 20 questions. Three groups were given the same time to answer the question, listening to each question twice. The first group was given the time to listen to the text twice, and then to do the question. A total of three tests were conducted once a week, and the average score of the three times was taken.

The results are presented through the following tables. In the table, PR is the abbreviation of Passing Rate, and ER is Excellence Rate.

**Table 1.** Freshman class from college of science and engineering

Question type	Group 1		Group 2		Group 3	
	PR (%)	ER (%)	PR (%)	ER (%)	PR (%)	ER (%)
True-false item	90	60	65	40	45	30
Question answering	70	40	40	15	30	10

**Table 2.** Sofomore class from college of science and engineering

Question type	Group 1		Group 2		Group 3	
	PR (%)	ER (%)	PR (%)	ER (%)	PR (%)	ER (%)
True-false item	95	65	70	45	60	35
Question answering	70	45	60	30	40	20

**Table 3.** Freshman class from college of liberal arts

Question type	Group 1		Group 2		Group 3	
	PR (%)	ER (%)	PR (%)	ER (%)	PR (%)	ER (%)
True-false item	90	55	65	30	40	20
Question answeing	70	35	40	10	20	5

The test results show that: first, the students in the first group behaved relatively best among the three classes, which has a great relationship with the lon-term acceptance of the training of students' ability to read plain text, but this is no longer an advantage in today's new media era. The scores of the third group of students in each class are the lowest, which shows that the students can not effectively mobilize hearing, vision and other ways to understand meaning, especially freshmen, who have not fully adapted to the new college English teaching mode. When they took the text, the third group of the students in each freshman class paid most attention to the video, ignoring the sound and text. When they were relieved, they could not finish the task effectively after listening twice. The digital literacy level of science and engineering freshmen is slightly better than that of liberal arts freshmen. Sophomores, who have been studying in a multimodal teaching environment for one year, and are familiar with the way of multimodal information transmission, and their scores are higher than that of freshmen. Second, although the use of multimedia facilities can help to improve students' interest in learning English, it is also a double-edged sword. If learners can not effectively understand the content, the input information will not be digested and assimilated, so the input has little effect on language learning. Hence, multimodal teaching and the improvement of the ability of multiliteracies are not completely positively correlated. In a word, the overall level of the students' English multiliteracies still needs to be improved.

## 2.5. Suggestions

First, improve College English teachers' understanding of the ability of multiliteracies. The existing data shows that we are in a comparatively backward position in the research of multiliteracies and ability training. Educators need to recognize the importance of it. Without this understanding, promoting the cultivation of the ability of multiliteracies is only a fantasy. Even if it can be implemented, it is difficult to achieve sustainable development.

Second, help students to establish the awareness of multiliteracies. With the development of the times, people have gone from oral age, reading and writing era to hypertext era. The whole society is becoming more and more multimodal. Therefore, students should constantly change their learning methods and learning content, and improve their awareness and ability of multiliteracies in the new learning environment, so as to improve their comprehensive application ability of English.

Third, design multimodal teaching carefully for each class. Multimodal PPT, multimodal teaching materials and multimodal network resources can arouse the interest of learners and become the right assistant of teaching and learning[5].Through certain methods in the classroom, teachers can make students adapt to multimodal information input, and effectively understand the integration significance of vision, hearing, space, posture, culture and technology in the modern information

network era, instead of focusing on some part of it. The specific methods can be used, such as designing scene operation, letting learners immerse themselves in the practice of constructing meaning, guiding students to read the latest newspapers and periodicals of some English speaking countries through the network, and then conducting online communication through the network platform, letting students transform the available design projects to generate new meanings, arranging students to make courseware related to the theme of the text, performing according to the text content, and so on. However, these can not be separated from the teacher's clear guidance, such as demonstration, explanation, error correction, providing effective information etc, and the teacher's guiding role should run through the whole teaching task.

### **3. Conclusion**

As a science and engineering university that is specialized in cultivating applied research, scientific and technological development, production technology and management design, manufacturing, construction and other scientific and technological production technology talents, it itself takes the cultivation of college students' practical ability and innovative ability to adapt to social needs as the primary task and goal. This provides a good external environment for the cultivation of students' ability of multiliteracies, but this ability is not equivalent to simple language ability. It does not mean that with the new media environment, students' ability of multiliteracies will be naturally improved. Therefore, educators should make good use of this external environment and actively adopt some effective methods to improve students' comprehensive language ability.

### **Acknowledgements**

The paper was funded by Social Science Planning Project of Jiangxi Province "Research on Multimodal College English Classroom Teaching Strategies from the Perspective of Interdisciplinary Theory" with Project No. 14WX207.

### **References**

- [1] Kress, G. (2009) *Multimodality: A Social Semiotic Approach to Contemporary Communication*. London: Routledge.
- [2] Hu, Zhuanglin., Dong, Jia. (2006) How is Meaning Constructed Multimodality—A Case Study of a PowerPoint Presentation Contest. *Computer-assisted Foreign Language Education*, 3-12.
- [3] Gamble, N., Easingwood, N. (2000) *ICT and Literacy*. New York: Continuum, 16.
- [4] Zhu, Yongsheng. (2008) Research on the Cultivation of the Ability of Multiliteracies and Its Enlightenment to Teaching Reform in My Country. *Foreign Language Research*, 10-14.
- [5] Wang, Xiaomei., Jian, Yan. (2020) An Empirical Study on Multimodal Interactive College English Teaching. *Heilongjiang Researches on Higher Education*, 152-154.