

# Study on Chinese College ESP Teaching in the Background of Mooc

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**Abstract**—The rise of MOOC provides new opportunities and challenges for the development of English for Specific Purposes (ESP). Based of the CBI and ESP theory, this paper analyzes the embarrassed ESP teaching situation in Chinese colleges and puts forward a new College English teaching mode of “on-line MOOC courses + CBI + ESP”(MCE) for the improvement of Non-English majors’ General English and academic English. The practical teaching experiment described in the paper includes quantitative and qualitative researches and tentatively proves the efficiency of this MCE teaching model on the improvement of learners’ learning motivation, learning strategies, and English proficiency.

**Index Terms**—Content-based instruction(CBI), ESP (English for special purposes), modern information technology, MOOC.

## I. INTRODUCTION

Nowadays the rapid development of internet and the intelligent mobile terminals not only impact greatly on economy, science and technology, but also on education with an unprecedented effect. A new type of network education mode called “MOOC” (Massive Open Online Course) appeared in 2011, which has taken great change to the internet online study and caused wide concern of the scholars worldwide. Among all of the open network courses, Coursera, edX and Udacity are the most remarkable, and many universities, including Qinghua university, Beijing University and Fudan University etc, are appealed to join their platforms. The “MOOC” tidal wave is coming, and the academic communities in China are making great effort on the localization of MOOC.

There are great difference between MOOC and traditional online education. MOOC is a kind of open, almost free of charge online educational resources, which has no requirement to the learners’ qualification. By MOOC, great numbers of people can learn at the same time, and they can share their experience, display their learning process, interact with each other, finish their homework and even participate in exams on the net. MOOC can present an integrated systematic teaching process. The learners can learn the most advanced courses provided by some prestigious universities at any time on the platform of MOOC. Therefore, it is a good compensation for the uneven distribution of educational resources.

## II. DEVELOPMENT OF MOOC AND COLLEGE ESP TEACHING IN CHINA

### A. College ESP Teaching and Its Present Dilemma in China

College English is one of the basic courses with the largest scales and the biggest concern in Chinese universities, however, students view it as one of the most disappointing courses. Cai Jigang, a famous College English teaching expert in China, thinks that the important factor causing students’ studying idleness in learning English is that language itself becomes the only concern in English learning, which obviously cannot meet the students’ professional study and their future career requirement [1].

The college ESP teaching serves as a bridge helping students transfer from basic English to bi-lingual subjects. ESP here is a wide concept, which is neither special English nor professional English, and it aims at the generality in different subjects, concerns about the English communication and the learning skills, that is to say, it is a cross-disciplinary generality of language, or General Academic English. So, ESP should be considered as a method in English teaching, and it emphasizes the academic techniques and the language communication ability about a subject, rather than subject knowledge. The college ESP teaching takes the main content of a certain subject as its base, combing the language learning with the study of the subject knowledge, and improves the language level together with the improvement of subject knowledge and cognitive competence [2].

However, the ESP teaching is coming into dilemma in China at present, and college English teachers’ knowledge structures have very serious limitation. Although more and more college English teachers have gained the master’s even the doctor’s degree, their academic structures are still a little simplex. Without the background of ESP teaching research, it is difficult for them to go in for ESP teaching to meet the need of society and the cultivation of compound talents.

Secondly, with the aid of modern information technology, MCE teaching mode covers other forms of basic professional online courses with English as their teaching language, and because of its unique teaching characteristics, it has higher requirements to the career development of college English teachers. Teachers should register online to study MOOC courses and have online training. They can choose one or two basic professional courses related to students’ majors and collect some other online resources in the meantime and improve their professional knowledge structure. The lecture can be given with a hybrid teaching pattern online and offline, that is, some autonomy study tasks such as MOOC and other

network video learning resources related to students' majors are provided online, and in offline class, teachers and students can have various kinds of interactions on the basis of students' autonomic study tasks and other learning resources. The MCE teaching activities focus on encouraging students to think and study in English, and when they finish a certain learning task, they should combine the language skills of listening, speaking, reading and writing consciously. Therefore, MCE is a kind of communicative language teaching pattern in nature.

### B. The Challenge and Opportunities of Chinese ESP Teaching from MOOC

English is widely used as the main language to spread academic knowledge, thus students have to make a good command of the regularities in English academic discourse environment [3]. It is true that there are so many MOOC courses on the network platforms of coursera, edX and Udacity which are set up by some famous universities, however, not all of the Chinese students can enjoy the abundance and openness of the online resources, as the challenges from the courses taught in English cannot be ignored. A statistics from Shell MOOC Institute shows that among all the courses on the platform of Coursera, 88% of them are taught in English [4]. In future MOOC teaching mode, Chinese students must listen to the lectures in English, complete tests and communicate with teachers or other students in English on network platforms, and the academic English skills become a necessity to realize this. Students need to have the capacity to use English in reading academic documents, summarizing the key points of their notes, taking part in seminars and expressing clearly their viewpoints. However, there aren't any Chinese subtitles for this kind of courses, and the Chinese translation versions and the post production are difficult to found, thus the door of the network courses are closed to the learners because of language barriers. An investigation shows that among the factors that interrupt the study of MOOC courses, the language barriers occupy 55%. That is why the ESP teaching, aiming at improving students' academic English skills, becomes so necessary and urgent in Chinese English teaching.

### III. CARATERISTICS OF COLLEGE ESP TEACHING BASED ON MOOC

The rise of MOOC appeals college ESP teachers to strengthen the practice of academic English skills, in the meantime, college English teachers should take advantage of MOOC to promote ESP teaching for the future career development of their students. MOOC has brought huge changes to higher education, and some college teachers has tried to blend MOOC with traditional class teaching by online and offline hybrid teaching mode, and a good teaching effect has already achieved [4]. Then, the college English teachers should think about how to realize the effective integration between MOOC and traditional college English class. This research is aimed to construct a kind of college ESP teaching mode called MCE (MOOC + CBI + ESP) on the base of the development of MOOC and other forms of network resources. By MCE teaching mode, the English

teaching is neither completely driven by language, nor completely driven by content, but develops in between instructed by CBI concept (As shown in Fig. 1).

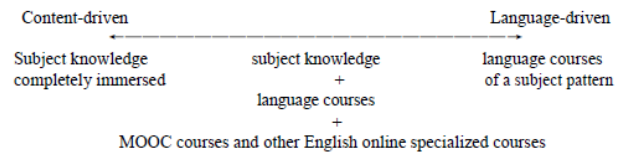


Fig. 1. Analysis of the MCE teaching mood.

Not only ESP-based, this mode also has its won unique teaching characteristics.

Firstly, MCE teaching mode has the characteristics of ESP teaching pattern, that is, it takes the common knowledge of different subjects as its core content, chooses the authentic language materials to meet the needs of students. The subject contents become the resources of language learning, while the acquisition of language ability is the by-products from learning the subject information or knowledge [5]. The subject knowledge can challenge the cognitive ability of students, so it appeals their interests to a great extent; at the same time the authentic language materials can provide significant language environment for English study. In short, content-based ESP teaching concerns about students' need in cognition, language and emotion, and takes their academic development and future career need into consideration.

Secondly, with the aid of modern information technology, MCE teaching mode covers other forms of basic professional online courses with English as their teaching language, and it has higher requirements to the career development of college English teachers. Teachers should register online to study MOOC courses and have online training. They can choose one or two basic professional courses related to students' majors and collect some other online resources in the meantime and improve their professional knowledge structure. The lecture can be given with a hybrid teaching pattern online and offline, that is, some autonomy study tasks such as MOOC and other network video learning resources related to students' majors are provided online, and in offline class, teachers and students can have various kinds of interactions on the basis of students' autonomic study tasks and other learning resources. The MCE teaching activities focus on encouraging students to think and study in English, and when they finish a certain learning task, they should combine the language skills of listening, speaking, reading and writing consciously. Therefore, MCE is a kind of communicative language teaching pattern in nature.

### IV. DESIGN ON EMPIRICAL RESEARCH

#### A. Research Questions

- 1) Whether does MCE teaching mode have an effect on the learners' English learning motivation and learning strategy? If the affect exists, how does the new teaching mode influence the learners' learning motivation and learning strategy?
- 2) Whether does MCE teaching mode have an effect on the learners' comprehensive language abilities? If the affect exists, which aspects of comprehensive English

does it affect?

### *B. Research Objects*

The experimental subjects in this research are the students majoring in Mechanical Engineering from a Chinese key university. They just began their fourth term in college when the research was made and the students were divided into two groups at random: experimental group and control group, each consists of 36 students. The experimental group was taught in MCE mode, while the control group in conventional English teaching mode.

### *C. Research Method*

The experimental process consists of quantitative and qualitative research. The quantitative contains a series of tests and questionnaire survey, so the experimental data can be gained to analyze how MCE teaching mode influences learners' learning motivation, learning strategies and comprehensive English ability; while the qualitative research refers to the survey to learning environment and learning process under MCE teaching mode, and is based on the investigation to the class teaching process, so the analysis and discussion can be done combined with quantitative research data.

### *D. Research Process*

The experiment began in Feb. 2015 and lasted a whole semester. Both the experimental group and control took part in the English comprehensive ability test. The test tool is a set of CET4 test paper. Both groups went through questionnaire survey about Gardner's learning motivation and SILL learning strategies designed by Oxford. The pre-test result shows that there is no significant difference on the former exam and questionnaire survey between the two groups. In the experimental process, the members in this experimental group made record and class investigation on the teachers' various kinds of teaching means of MCE mode. At the end of the experiment, both groups took a test and questionnaire survey again. Another set of CET 4 test paper was used to test students' comprehensive English ability, and the questionnaire survey on learning motivation and strategies was the same as that of the pre-test. Both groups received interviews about two kinds of teaching methods. When the semester came to an end, the research group made a multi-variate statistical analysis on the collected experimental data to guarantee the language teaching result under MCE mode more systematic and effective. The final experimental data adopted SPSS15.0 in pair test and independent sample t-test, thus the difference about the two groups between pre-test and post-test can be observed clearly. At the same time by sorting out and analyzing the interviews with students, the investigation records of class and the tracked after-class interviews with teachers, the preliminary empirical research result can be obtained.

### *E. The experimental Subject Content and Teaching Organizing Process*

For the experimental group, the subject content is the general knowledge about mechanical engineering, covering the hot issues and the latest news and views in this field. The textbook is no longer the only teaching resource and the real

material was used in a more flexible and efficient way. English grammar and language construction are not the primary focus, and more attention is paid to the contents of the learning materials, the viewpoints of learners and their cognitive attitude to the subjects. The course learned by the control group is College English on intensive reading, extensive reading and listening. The teaching is organized on the base of textbook. Grammar, vocabulary and translation are the main teaching content in class and teachers design some interaction and training activities of English listening, speaking, reading and writing. In fact, this is the dominant College English teaching mode in China at present.

### *F. The Experimental Results and Discussion*

The learning motivation is improved: After studying for one semester, the learning motivation of two groups was both improved. However, the group taking part in MCE teaching mode has more intensive motivation than those in conventional English teaching mode. And in the MCE class group, the learning motivation level of students was much higher than before.

Combined with interviews and class observation to the students, the reasons for this result can be analyzed as following: 1) the innovation of the teaching method cultivates the enthusiasm of students' autonomous learning. In MCE teaching mode, teachers take students' major and interest into consideration and adapt blending teaching pattern with the aid of resources from the platform of MOOC. They also train students in academic spoken English ability, help them expend specialized English vocabulary, get familiar with the syntactic and discourse features of academic English, and prepare for the study of bi-lingual class and specialized English. In this teaching mode teachers combine the language teaching with the study of subject contents on the base of modern information technology, that arouses students' curiosity in English and take it as a very important language learning tool, and the curiosity autonomously promotes their intrinsic learning motivation [6]. 2) The great challenge from online MOOC inspires students' motivation to learn English. The online MOOC classes taught in English give students great challenges to their English abilities. And most homework arranged by teachers requires students to listen to online MOOC lecture, thus the students realize that English is so important to their future profession and firmly strengthen their conviction to learn English well. So a conclusion can be obtained: in college English teaching environment, this ESP teaching mode can promote efficiently the learning motivation of Chinese learners.

The learning strategy is improved. The questionnaire survey of learning strategy adopts 5-point system; a high score means more strategies are used in learning English. Oxford divided the learning strategies into 3 levels: 5.0-3.5 means high level, 3.4-2.5 medium, 2.5 and below means low level. Before the experiment the two groups have no significant difference in English learning strategies. The average values for using different strategies are 3.00 and 2.92, and both are in medium level. Before the experiment the two groups had no significant difference in using various learning strategies ( $p>0.05$ ), on a whole there is no obvious difference in using strategies ( $t=0.7$ ,  $p>0.05$ ). However, after the

experiment, the students in MCE teaching class used more learning strategies than those in conventional teaching class ( $t=2.32, p<0.05$ ), and they are more independent and have more self-management consciousness. Compared with the control group, the students in MCE teaching group use more compensatory strategies ( $t=3.27, p<0.05$ ), more meta-cognitive strategies ( $t=2.06, p<0.05$ ), and more social strategies ( $t=2.24, p<0.05$ ).

TABLE I: LEARNING STRATEGY CONTRAST VARIABLES BETWEEN TWO GROUPS BEFORE AND AFTER EXPERIMENT

Variables	Experimental group(N=36)		Control group (N=36)			
	Average	Standard deviation	Average	Standard deviation	t	p
writing	9.16	9.33	-1.06	1.35	-0.83	0.41
listening	22.43	2.67	19.22	2.58	5.40	0.00
reading	29.00	3.25	28.43	3.77	2.19	0.04
translation	9.13	1.42	8.89	1.06	1.16	0.26
Total marks	69.73	5.63	65.87	6.90	4.24	0.00

Based on the interviews with students and the experiment results, the research group makes the following analysis: MCE teaching mode centers on students, uses subject knowledge as its background, emphasizes the experience obtained from study, and pays attention to the development and autonomous learning and independent thinking. In class teachers combine their teaching with resources from MOOC, assign homework on the basis of students' performance and teaching task. After class students learn independently with the aid of MOOC and other online resources, so it can supplement the class teaching. The study interest and self-management ability of students are strengthened, and their critical thinking ability is also improved. In this way the subject knowledge and language ability of students can be both improved at the same time.

The English ability is improved. The experiment results of the students' comprehensive English ability are shown in Table II: both the MCE mode and conventional English teaching mode can help to improve students' comprehensive English ability. However, MCE teaching mode can make the students' English ability improve more rapidly ( $t=4.24, p<0.05$ ), and they can obtain information in English more efficiently, which can be seen from the variables of reading ability ( $t=2.19, p<0.05$ ) and listening ability ( $t=5.40, p<0.05$ ). After a series of qualitative study, the research group finds that compared with the control group, the experimental group has made obvious improvement in English usage and speaking.

MCE teaching mode supplies a kind of environment more beneficial to language learning. With the aid of network resources, it makes the language input more diversified, more authentic. Based on the contents of subjects, this mode can inspire students to study both the subject and the language, and improve their learning initiative [7]. Therefore, a preliminary conclusion can be obtained as following: the

college English can be taught with the aid of modern information technology based on the network platform MOOC, and carries on the content-based ESP teaching mode, by doing so the Chinese learners' comprehensive English ability and critical thinking ability can be improved efficiently, and thus lays a solid foundation for learning subject knowledge. MCE teaching mode helps the Chinese learners improve their English ability, their autonomic learning and self-management abilities, so it is surely beneficial to the development of students' subject learning ability.

TABLE II: CONTRAST OF COMPERHENSIVE ENGLISH ABILITY AFTER EXPERIMENT

Variables	Before experiment				After experiment			
	Experi-mental group	Control group	t	p	Experi-mental group	Control group	t	p
Memory strategy	2.96 (0.43)	2.88 (0.46)	0.79	0.43	3.13 (0.40)	3.03 (0.47)	1.03	0.30
Cognitive strategy	3.03 (0.47)	3.01 (0.56)	0.14	0.88	3.07 (0.35)	3.10 (0.42)	-0.50	0.62
Compensation strategy	3.23 (0.64)	3.25 (0.51)	-0.13	0.90	3.31 (0.40)	2.92 (0.45)	3.27	0.00
Meta-cognition strategy	3.09 (0.69)	3.14 (0.60)	-0.29	0.78	3.40 (0.40)	3.20 (0.53)	2.06	0.05
Affective strategy	2.86 (0.58)	2.82 (0.61)	0.29	0.78	2.96 (0.45)	2.84 (0.44)	1.19	0.24
Social strategy	2.85 (0.96)	3.03 (0.47)	0.53	0.60	3.20 (0.61)	2.85 (0.65)	2.24	0.03
Overall usage	3.00 (0.41)	2.92 (0.40)	0.76	0.44	3.18 (0.24)	3.03 (0.32)	2.32	0.03

## V. CONCLUSION

The practical teaching experiment described in the paper tentatively proves the efficiency of this MCE teaching model on the improvement of learners' learning motivation, learning strategies, and English proficiency. The rise of MOOC is going to make a deep impact on educational system, learning attitude, teaching mode and university function in China or even the world. Innovative teaching method is very important for the teaching staff. Every college English teacher should think about how to take the advantage of MOOC and go on the educational reform. This kind of beneficial attempt directs the way of the future efforts for college English teachers.

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