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The Integrated ESP Curriculum Construction: A Case Study in the Chinese Tertiary Context

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Abstract: The course design has been paid attention to by both teachers and administrators. However, for a long time, some problems, such as the fragmented course design, and the repeated teaching contents, have existed in the college English curriculum for non-English majors from undergraduates, graduates and Ph. D students in the mainland China. Based on the ESP "learning-centred" approach, this study intends to construct an integrated curriculum system to help solve these problems through three main features of the integrated curriculum system: systematicness, hierarchy and openness. To investigate the feasibility of the course system, the combination of quantitative and qualitative research methods were used through questionnaire, text analysis and interview. The results show that, 1. This curriculum system can avoid the repetition of the course content. The fragmented curriculum design and the needs from the nation, society and students can be met through the systematicness, hierarchy and openness. 2. This system can facilitate teachers' teaching reform and research interest because they have more choices to adapt the materials from students' disciplines besides textbooks. This curriculum system is hoped to provide a possible way to meet the nation, society and students' needs in the Chinese tertiary context.

Keywords: Case study, Chinese tertiary context, ESP curriculum, needs analysis, integrated curriculum system.

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Introduction

In recent years, the Ministry of Education (MoE) in the mainland China has held "the reform of general foreign language teaching and vigorously cultivating international professional talents with high quality" in the tertiary level, for which students' competences are strengthened through the integration of subjects and languages. The MoE also proposes developing "Innovation for engineering, liberal arts, medicine and agriculture", an initiative of the Ministry of Education in China (hereinafter referred to as "Four innovations"). Based on this situation, the nation urgently needs talents with the global vision and competitiveness because these versatile talents may promote China's exchanges with people from other countries, scientific and cultural communication with proficiency in English and cross-cultural communication skills, while College English acts the main role to achieve communicative skills and understand cultures. College English course is a compulsory course for non-English major students in the tertiary level of China. This course often covers three levels of students: undergraduates, who have just had entrance examination for college study and will continue English study for university study; the graduates who are required to study for future career and academic research; and PhD students who are required to study English for academic communication (publishing article and attending international academic conferences). The latest "College English Teaching Guide" (hereinafter referred to as "Guide") in China stresses that students must have a global vision with humanistic quality. At the same time students can use English as a basic tool for knowledge innovation, potential exertion and all-round development.

However, the Guide only claims the general goal for the college English, but does not explain clearly the goal for each level from undergraduate to postgraduate. Still, many repetitions on language use and vocabulary learning have been made because teachers do not know the content and the course goal from each level with each other, and thus this practice leads to the waste of time and teaching sources. The most seriously, this mutual ignorance has aroused students' learning weariness. As a result, the separate course design is hard to meet the needs for the international communication ability. Besides, English teachers have been in the comfort zone and have been used to their teaching mode. For many years they have used the same textbooks, and seldom thought of the needs of the nation, society, and students. The teaching objectives do not fully consider the integration of language knowledge, language skills and

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students' professional knowledge, and thus resulting in the disconnection between students' language learning and professional learning and future career development. Besides, the English teachers lack the academic training to improve themselves with global vision since most of them have graduated from the major of English literature for more than ten or more years, and have been used to teaching the language itself, following the materials given without their own thinking. Although the "Four Initiatives" requires the reform from the general English to ESP course, English teachers lack the training of how to deal with the new situation. They lack the understanding of how to deal with the content of other disciplines knowledge with appropriate teaching methods, do not effectively guide students to combine language learning with their professional learning, and the teaching efficiency is not high.

Due to the above situation, College English teaching has been criticized by society for it could not serve the nation's economy and development. For example, some scholars (Cai, 2004, 2007; Nan, 2005) wonder why many students, who have studied English for more than ten years, and passed CET 4 & 6 (College English test band 4 & 6, a proficiency test for college students in China), cannot use English in their work and study. They cannot even write a memo, email, or academic articles, nor could they communicate with other foreigners in some international events, such as trade negotiations; enterprise contract negotiation, etc. with appropriate language expression. A typical example happened with a notice from Air China. In 2016, *Evening Standard* reported a news, entitled: "Chinese airline sparks racism row over advice to travelers visiting London" (Xie, 2020). This report, in fact is a good example of cultural misunderstanding and a lesson of how appropriate expressions are in international events. This query has aroused many scholars' attention (Cai, 2004, 2007; Huang, et al., 2017; Nan, 2005; Shu, 2011; Wang & Wang, 2011; Wen, 2014). Some suggestions have indeed been recommended (such as Cai, 2004, 2007; Luo & Li, 2008; Shu & Wang, 2004; Sun & Gu, 2009; Sun & Li, 2011; Wang, 2018; Yin & Yan, 2011). However, most of these suggestions focus more on introducing other foreign scholars' implementation or teaching methods. There has been no specific course design model to guide college English teaching with the clear orientation of the objectives of college English from the level of undergraduate to postgraduate. Studies abroad on course designs have not been targeted because of different situation backgrounds, though some research and theories can be learned.

Based on the "learning-centered approach" in ESP teaching course design (Hutchinson & Waters, 1987), this study constructs the integrated the curriculum system for three levels of non-English major students from undergraduates, master, and Ph. D students. To check whether this system is feasible and available, two research questions are discussed below.

- 1) In what aspects is this curriculum system feasible for teaching and learning?
- 2) In what ways does this curriculum system help both teacher development and students' real needs?

Literature review

This study focuses on the ESP course design in terms of "learning centered approach" (Hutchinson & Waters, 1987) by discussing the feasibility of the curriculum system to solve the repetition of content for each level of students in the Chinese tertiary context.

ESP approach & course design

Curriculum design is an essential step for schools to organize and implement education and teaching activities in a planned and purposeful way (Huang, 2010). It is a concrete description of teaching objectives and the course arrangement and regulation. The course curriculum is the scheme in schools or educational institutions at all levels, including the specific courses and the time, which reflects the overall structure (Huang, 2010).

ESP curriculum design targets at the specific groups since the trained people are from different backgrounds and for various purposes. Therefore, the curriculum design and teaching methods must be designed based on the need analysis (target situation needs and learning needs) to effectively deal with the training course. Hutchinson and Waters (1987) summed up three methods of language curriculum setting: language knowledge-based, skills-based, and "learning-centered" approach based on need analysis (Chostelidou, 2011; Richards, 2001). The first two are for language course design, while the third is what Hutchinson and Waters (1987) claim the ESP approach. The "learning-centered" approach is highly praised by ESP experts because it reflects the essence of ESP teaching. ESP experts (such as Dudley-Evans & St. John, 1998; Hutchinson & Waters, 1987; Kennedy & Bolitho, 1984) claim that ESP teaching must consider three aspects: the concerning language theories for course design syllabus, the learning theories for methodology, such as language, psychology and pedagogy, and the needs analysis (target situation needs and learning needs). Foreign language education should pay attention to the related research of pedagogy and psychology, and fully absorb the advanced achievements in the field of pedagogy so that ESP practitioners can teach effectively (Jiang & Li, 2010). Hutchinson and Waters (1987) believe that ESP curriculum design should be negotiable and dynamic. Demand and resources can change with time, and thus the curriculum design focuses on the diversity of teaching methods to ensure the students' interests. The course design also pays attention to students' ability to use language and answers whether the resources in the classroom meet the needs of students and teachers to use various skills. Besides, we may also find

that some studies deal with ESP course design (e.g., Bastrukment, 2010; Bruce, 2005; Feez, 1998; Johns, 1988; Munteanu et al., 2019; Toohey, 1999; Widdowson, 1981, 1990).

In viewing the studies on course design in China, some scholars realize that ESP teaching may be the way to solve the problems of the present college English. For example, college English has only paid attention to students' language knowledge. With years passing, students can get higher scores on proficiency tests but cannot communicate with foreigners either in speaking and writing, let alone express or write appropriately in English. Scholars believe ESP course design must be the solution to these problems in college English with the increasing international communication, economic globalization, integration of science and technology, and the arrival of the multicultural era (Cai, 2004, 2007). In recent years, many scholars have discussed the English curriculum system and the research based on ESP approach based on their practical experience. For example, given the problems existing in each link of ESP teaching, many scholars have discussed the possibility of ESP curriculum construction based on their teaching experience. Huang (2010) adopted the task-based ESP curriculum design in an ESP course by discussing the theory of curriculum design, explored the feasibility of task-based teaching by analyzing two cases in her context, and found ESP teaching can be feasible but needs teachers' positive ideas in ESP teaching, that is, teachers need no worries about the subject content, and play more roles when teaching in the ESP class. She believes that ESP teaching can avoid the dilemma of the subject content if the ESP teacher well organizes the class with different roles, such as a well-structured organizer in the classroom, a participant to learn from the students, or a facilitator to encourage students to accomplish their activities. Wang (2004) took Tongji University as an example, examined the current situation of ESP teaching in her university, tried to find out the existing problems, and put forward corresponding suggestions, such as the combination of English and subject content by situating students into the natural context. Ruan Jizhi (2005) took the business English course as an example, discussed the course objectives, and expounded the principles that should be followed in the course teaching, and suggested a possible way to teach the business English course in China. Liang et al. (2006) investigated ESP courses for English majors, found that there were problems in learning objectives, teachers, teaching materials, teaching quality, teaching methods, etc., and put forward a series of countermeasures, such as evaluation, cross-discipline cooperation, teaching material bidding, etc. to improve the quality of ESP teaching. From the above studies, it is not difficult to see that Chinese scholars have attached great importance to ESP curriculum research. However, there are some problems in these studies: (1) Most studies on ESP curriculum design in China rely on teachers' experience to discuss the curriculum design, but less empirical study; (2) Although many studies have pointed out that there are problems in ESP teaching at the present stage in terms of curriculum, teaching methods, teaching modes, teachers, teaching materials, etc., there is no in-depth study of the countermeasures to these problems, or only some general ideas are put forward (Wang Heng, 2008). To truly solve the problems in ESP teaching and improve its teaching quality, we must do detailed research and deal with concrete and feasible countermeasures. (3) At present, the ESP studies concerning the curriculum or teaching have been only discussed on the individual course for undergraduates, or graduates. Fewer has not dealt with the integration of the undergraduates, postgraduates and PhD students and has not carried out a systematic, hierarchical, and open ESP curriculum for the three levels.

Studies on teaching methods

Based on the "learning centered" approach, the task-based method has been suggested in this curriculum system. Tyler (1969) thinks that teaching and learning flexibility are vital in the task-based teaching method. Students in the classroom have the right to decide on the task method because students need to solve problems rather than understand a single language phenomenon when they get tasks (Nunan, 1984, 1988; Skehan, 1996). Therefore, the task-based teaching method focuses on students solving problems through tasks and learning language knowledge and other knowledge in doing a series of tasks. This practice often needs cooperation.

In ESP course design, collaboration can be divided into the collaboration between students when they are doing tasks, the collaboration between the teacher and students who need help from the teacher, or the teacher needs help from the students because of the limited subject knowledge. Kennedy and Bolitho (1984) put forward 10 points of view on collaborative teaching mode. The sixth point mentioned that teachers could learn subject knowledge from their students to make up for the defects of subject knowledge. Although English teachers do not need to know much subject knowledge, they can cooperate with subject teachers to carry out cooperative teaching of professional English. Jordan (1997) also believes that the collaboration between subject teachers and English teachers is one of the methods to solve the problem of professional English teaching. The collaborative teaching mode has great advantages. For example, through mutual discussion, both subject and English teachers can make up for each other's shortcomings. In class, when students have questions about their major or language, both language, and subject teachers can explain them. Therefore, cooperative teaching varies based on the situation and needs.

Based on ESP course design and task-based teaching method, this study first tries to construct a systematic, hierarchy, and openness course design system for three levels of students from undergraduates, graduates and PhD to avoid the repetition of the three-course content and promote students' academic communication with global visions. Then through interviews and questionnaires, the feasibility and benefits are investigated.

The construction of ESP integration Curriculum System

The curriculum system must be designed according to the national development, social needs, and student's needs. It should be noted that teachers from all courses are encouraged to use "learning-centered", and each course requires teachers not only to teach the language knowledge and cultural knowledge but also to guide students to complete the projects or tasks designed with their disciplinary content or important events at home and abroad so that students can experience and acquire the proper expression of language in oral and writing by themselves during the completion of the projects/tasks. The curriculum system has three characteristics: Systematicness, hierarchy, and openness (see Fig 1).

Course features

This curriculum system pays more attention to the productive skills, such as writing and speaking, so that students can express themselves appropriately, and also stress the consolidation and development of input skills, such as reading for academic and professional communication, because in senior high school, students have mastered and completed English grammar and basic vocabulary. They can pass the college entrance examination training. However, at the tertiary level, students must further strengthen and practise their productive skills with their existing knowledge to understand their subject area through English to use the language fluently. As a result, different from the present college English course design, the features of this curriculum system are designed with more flexibility, dynamics (Cottrell, 2013; Hutchinson & Waters, 1987; Norton & Campbell, 2007) with the following features:

- *Multi-purposes*: besides English language learning, this curriculum system is concerned with students' global competences: communicative, innovative, critical thinking, and collaborative, with which students are encouraged to master their English through their subject content to communicate internationally.
- *Flexibility*: This curriculum system encourages teachers to plan their lessons in terms of their students' needs for professional purposes, career purposes as well as interests. Therefore, teachers can have more chances to select their materials or adapt, even produce the authentic materials; while students can choose what they want to learn among courses provided.
- *Dynamic*: this curriculum system can be adjusted and improved according to the feedback of students or teachers with anytime of the course implementation. The curriculum syllabus must be changed with different students. Teachers are required to understand material evaluation, adaptation, and production, having a sense of crisis anytime and anywhere.
- *Openness*: More courses have been open to students at all levels. For example, undergraduate students can choose two from these courses according to their needs and interests. In the graduate stage, the open courses are offered for different disciplines. Graduates can freely choose what they need according to their needs for professional development or academic development. In addition, undergraduates with good academic ability are encouraged to select higher-level courses. This fully reflects the curriculum system's openness to truly achieve the purpose of reasonable resource allocation based on needs.
- *Systematicness*: Based on the analysis of the discipline context and social development needs, the framework of this curriculum system covers three levels of curriculum groups(see Fig. 2): general academic English curriculum (GANC) group (including English for university study, English for academic literacy (EAL) and other extended courses) for undergraduate level; English for academic and professional communication curriculum (EAPCC) group for graduates) and English for international academic communication curriculum (EIACC) group for PhD students).

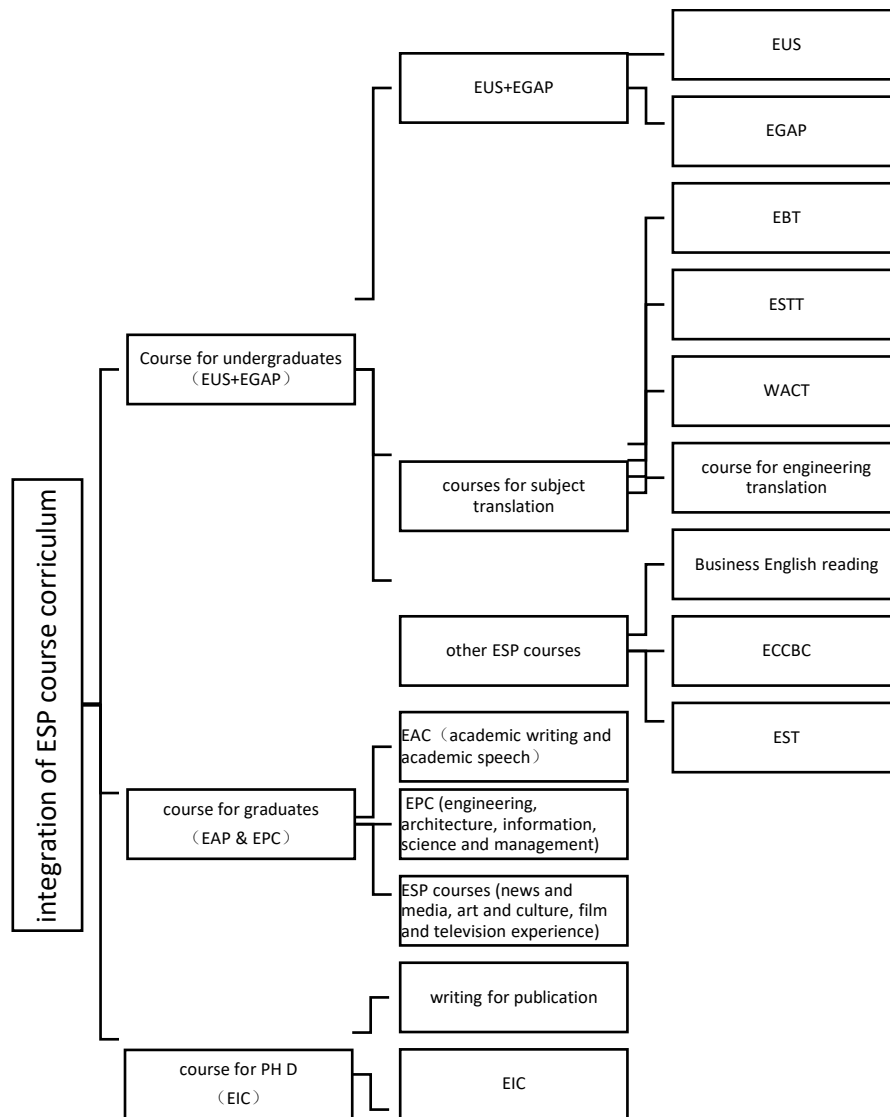


Figure 1. College English Curriculum System (courses above can be changed based on needs)

*EUS=English for university study; EGAP=English for general academic purposes; EAP= English for academic purposes; EPC= English for professional communication; EIC=English for international communication; EBT=English for business translation; ESTT=English for science and technology translation; WACT=Western architectural culture and translation; ECCBC=English for cross-cultural business communication; EAC=English for academic communication

- *Hierarchy:* Besides systematicness, this curriculum system emphasizes the hierarchical development of the curriculum (see Figure 2). Figure 2 shows the proportion of professional content and language ability in three levels. The professional content increases from undergraduates to PhD students with the deepening of students' professional study. At the same time, the proportion of language learning decreases with the continuous improvement of the student's language ability, but it is more reflected in proper language expression.

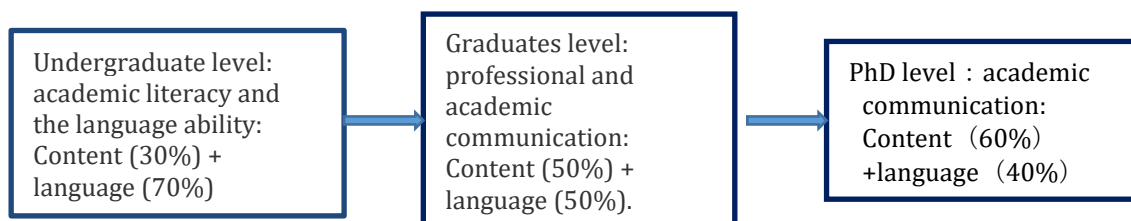


Figure 3. Hierarchy curriculum system for three levels of students

GAEC for undergraduates

GAEC for undergraduates focuses on general English communication with the goal to improve the student's communicative competences and academic literacy. Its primary purpose is to guide high school students, who have just entered the university, to change their ideas from exam-oriented education of college entrance examination to university learning, to cultivate their general academic English communication with initial academic literacy, such as various general academic English translation, reading and writing courses, and to guide students to have preliminary scientific awareness. The courses about academic literacy and other courses are offered respectively in the first and second year. The series course for academic literacy emphasize the cultivation of students' general language ability. Through inquiry project-based learning (Siu et al., 2011), students are trained to understand the basic research requirements based on topics related to students' daily life, college courses, and social hotspots in English. The extended courses emphasize the general academic communication competences in cross-culture translations, business English, etc. to build up students' general academic literacy and general academic communication ability, enhance students' cross-cultural communication ability, and expand students' global vision.

EAPCC for graduates

EAPCC for graduates mainly contains two types of courses: English for professional communication and English for academic communication, which emphasizes the integration of language ability and academic/professional communication, and the cultivation of professional communication ability concerning students' future careers and research. Students' genre ability (various professional genres), text competence, and social competence are trained to promote students' communication in English in academic and professional contexts. Compared with the undergraduate level, the general language communication has been weakened, and more specific content concerning students' disciplines have been dealt with to improve their professional communication competence. Based on the "learning-centered" approach, the combination of content and language has been paid more attention with the help of English learning expertise. For example, students must grasp the common core competences in writing and speaking for various disciplines through text, genre, and social competences to achieve their professional communication. At present, English for academic/professional communication is mainly divided into two types based on the disciplines: natural science: such as engineering, architecture, information, and mechanics, and social science, such as management, news and media, art and culture, film and television experience, etc. The courses for graduate level have two purposes. One is to continue to cultivate students' scientific awareness but to equip them with language expression skills that may be involved after going to the workplace, such as various English mail writing, meeting organization, presentation and meeting minutes, etc.

EIACC for PhD students

EIACC has higher academic and professional language communication requirements, which improves students' competences in international academic communication. To be more specific, this course guides students to build up their oral and written communication skills for academic research and related activities of international academic conferences. Students can write research journal articles for publication, prepare academic lectures, and write oral and written speeches for academic conferences.

The curriculum system for the above three levels aims at solving the long-term course design barriers between English courses for undergraduates, graduates, and PhD students by integrating English courses at all levels and emphasizing the irreplaceable role and importance of language in various disciplines.

Course content

The main contents of this curriculum system focus on three parts: general English for compulsory courses (such as EUS), English for specific purposes (such as English for News & Media, English for Management, English for Architecture, etc.); and cross-cultural communication for optional elective courses to achieve students' competences, as Figure 4 shows. In Figure 3, the college English must focus on language competencies to build up academic and professional communication with intercultural competencies. General English should gradually be weakened, while English for specific purposes and cross-cultural communication has steadily been strengthened to avoid the repetitions from the high school English. Thus, the content mainly contains the following features:

- The courses which contain subjects: English for university study (EUS)
- The course which contains cultures in the target situation: for intercultural competences
- The course which contains academic communication: for international academic communication
- The course which contains learning strategies: for lifelong learning

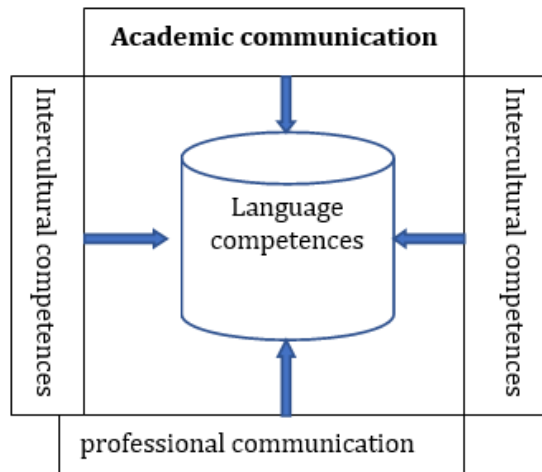


Figure 3. Competences trained in the course system (adapted from Bhatia, 2004)

The guided teaching methods and assessment for this curriculum system

After the course objectives, the course structure and the course content, teaching methods are suggested in this system. Any teaching method can be used, provided that the teaching method is appropriate to the students' learning. Teachers are encouraged to adopt the eclectic teaching method (Kumaravadivelu, 1994) according to their expertise and the student's needs. But project/task-based teaching methods are recommended with modern educational technologies, such as online/offline teaching, flipped courses, etc.

The learning-centered approach (Hutchinson & Waters, 1987) must be considered during implementation because learning and acquisition are the most important. Teachers involved in this system are encouraged to organize the classroom through "learning by doing" (Kolb, 1984) with clear instructions for every project, task, or activity for students' interests, profession, and academic communication.

Considering the current test-driven status quo for the college entrance examination, we must use summative and formative assessments. Summative assessment (Houston & Thompson, 2017; Knight, 2002). is used to test the effectiveness of learning outcomes, while formative assessment is used to check students' performance in each learning stage to ensure the improvement of student's language competences and knowledge of intercultural competences.

Inquiry Project-based /task teaching

In addition to hierarchical course content and the course for achieving different competencies at all levels, this curriculum system pays attention to teacher training, such as the guidance of inquiry project-based teaching (Alt et al., 2022; English, 2013), and how to deal with the subject knowledge in English class, and so on. Teachers are encouraged to adopt the experiential and inquiry-based teaching methods (Houston & Thompson, 2017; Kolb, 1984) with students' subject area and encourages students to use English for project selection, project operation, project report, and presentation to improve students' communication competence both in speaking and writing; critical thinking and initiative competence through reading and review concerning literature in their disciplines; and collaborative competence through group work. With the help of various teaching reform projects, teachers have been aware of effectively teaching based on target and learning needs. In contrast, course arrangement of the course content has been continuously polished and improved, and finally has been constructed as shown in Figure 1 and Figure 2, in which professional learning has been integrated into English learning, effectively improving students' professional and academic communication ability at all levels are integrated, aiming at the students' academic knowledge awareness and academic English communication skills. Taking EUS (English for university study) as an example. EUS is a Basic English course for college students who have just completed their entrance examination for administration for university. This course aims to guide students to change the examination-oriented English learning into English for university study, in which students are required to learn English through projects with academic awareness and language communication.

Online and offline mixed teaching

With online learning platforms such as school online, cloud class, UMO, etc., this system extended the classroom teaching in the virtual space of the network. Flipped classroom teaching (Aycicek & Yelken, 2018) has also been used in actual classrooms and online courses. Online-offline hybrid teaching (Wu, 2022). makes up for the shortcomings of classroom teaching, and thus, teachers are encouraged to try multi-modal teaching. At present, six massive open online courses and four massive open online courses have been tried and developed. For example, the "Science and Technology Translation" integrated the contents of document retrieval, machine translation, essay reading, etc. After

one year of trial, this course has become an open online course, "Literature review for academic research & Computer-Assisted Chinese-English Translation", launched on the mainstream massive open online course platforms in China, such as MOOC, Rain class Online, massive open online course Platform for Foreign Languages in Chinese Universities, Wisdom Tree (All are software names for online courses in China), etc. This online course attracted more than 30,000 people to take the course within one year.

Research Design

To assess whether this curriculum system is available and feasible, this study mainly adopted qualitative research with the questionnaire, text analysis, and the interview to answer the following two research questions:

- 1) In what aspects is this curriculum system feasible for teaching and learning?
- 2) In what ways does this curriculum system help both teacher development and students' real needs?

Instruments

Questionnaire

Questionnaires are regarded as an efficient way to collect data from large numbers of participants. When they include rank-ordering scales and open-ended questions, 'the resulting data begin to resemble what people say in response to such questions in the interview' (Lynch, 1992, as cited in Dornyei, 2003). In my study, I selected attitudinal questions because my study aimed to 'find out what people think, concerning attitudes, opinions, beliefs, interests, and values' (Dornyei, 2003).

The questionnaire consisted of closed questions, requiring a response on a four-point Likert-type scale, and open-ended questions. Burns (1994, as cited in Merriam, 1998) claims that when respondents misunderstand the questions, the rate of returns may be lower. Some strategies were used to reduce these defects. Firstly, I consciously designed specific questions in simple language (Moser & Kalton, 1971). The questionnaire began with personal, factual details, and the questions were numbered and divided into coherent sections with specific topics.

Text analysis for Wechat

Text analysis was used to analyze WeChat data. The texts collected were from the messages through WeChat (a popular software in China) from 2017 to 2021. Messages were from the interdisciplinary teacher community and private WeChat talks between the researcher and teachers. Since WeChat talk is meaningful communication through which information can be collected in the continuous communication of people, and things related to the environment, I must understand their thoughts, emotions, and behaviors to explain the significance of the phenomenon. Only members living in the same situation can understand the meaning of various symbols and share their values. I can rely on their statements to understand the problem and obtain information naturally and ecologically.

Open Interview

This study used open interviews because I wanted to identify the participants' thoughts and feelings about their career development from different cases. I started with open questions such as "what do you think of this new curriculum system?" Based on the different informants' ideas, I often further question him/her like "Why do you think?". These questions are personalized and depend on what the researcher observes in the initial observation. Since the interview started, I often chose not to stop the participant's talking until she had no words to say. I would ask some questions about what the participant mentioned and continue to know in-depth meanings (Minichiello et al., 1995).

Research Subjects

The research subjects were divided into three aspects: questionnaire respondents for college students from the three levels, WeChat messages from teachers, and open interview informants from six teachers and 12 students.

Questionnaire Respondents

Questionnaires were delivered to 1000 respondents from the three levels of undergraduates, graduates, and PhD students in 2021. We received 782 effective questionnaires, of which 348 were from undergraduates, 235 from graduates, and 199 from PhD students.

Informants

Six college English teachers and 12 students were selected for a key university in 2021. The chosen teacher informants have worked with researchers for more than ten years. The reasons why these six college English teachers were selected are as follows:

- They have been the researcher's colleagues for more than ten years, so they trust the researcher and would like to share their happiness and challenges in teacher development;
- They have rich teaching experiences and have a deep understanding of the present situation of College English;
- They all had experiences in teaching the three levels of students.

Twelve students selected are from the three levels, of which four were respectively from each of the levels.

Anonymity

The WeChat messages were from WeChat group from 2017 to 2021. Messages from the WeChat group were collected without telling the group members to ensure the truth of the messages. Based on the messages, we selected the six interview participants. The researcher used an anonymous name for each participant, concerning oneself with facts and not with individuals under the condition of obtaining the consent of the informants. All participants were willing to accept the invitation and fill in the consent form, in which they all agreed to use their WeChat records with anonymous names. They were invited to this study because they had teaching experiences and strong wishes to be promoted. The information sheet was delivered to informants to help them understand the research and decide whether they could be involved in the study with confidentiality.

Data Collection

The data contains the WeChat information through the teacher community from 2017 to 2021 and the open interview with six participants. So, messages from WeChat were collected, and the tape-recorded open interviews were transcribed into words. Both WeChat and interview data messages were analyzed through analytic induction (Goetz & LeComte, 1984) and constant comparison (Huberman & Miles, 1994). I followed O'Connell and Kowal's (1995) principles for transcription. Richards (2001, p. 90) claims that there are three kinds of coding, descriptive, topic, and analytical. Richards' (2001) coding strategies made me realize that coding categories were important. I used Merriam's (1998) recommendations to guide the process to ensure my categories' validity and effectiveness. Freeman's (1998) grounded data analysis procedure was also helpful in supporting me to 'unpack the data' (p. 102) according to the themes and concepts I saw. Figure 1 visualizes the process I followed, which reflected the two principles of selection and systematic analysis (Ezzy, 2002).

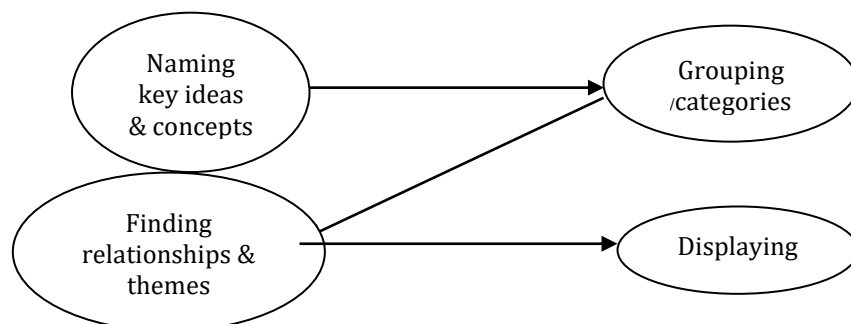


Figure 4. Data collection and analysis framework (Simplified from Freeman 1998)

Based on Figure 4, I first read the messages (567 pieces) collected from the Wechat. I then constantly compared and analyzed the themes, and tried to group them into similar categories. Then I left this analysis for more than two weeks. Then I did the similar round again for the third time. Finally, I obtained the data as Table 1 shows.

Table 1. Key Themes of Wechat Messages Collected Through Text Analysis

Categories from themes	Keywords
1. course arrangement	1) <i>reasonable course arrangement</i> ; 2) <i>bridge the gap of each level</i>
2. <i>needs</i>	3) <i>students' needs</i> ; 4) <i>society needs</i> ; 5) <i>nation's needs</i>
3. teacher development	6) <i>professional knowledge</i> ; 7) <i>teacher's professional direction</i> ; 8) <i>teaching competition</i> ; 9) <i>link between subject and the language teachers</i>
4. <i>achievements</i>	10) <i>students' competences</i> ; 11) <i>teachers' developments</i>
5. challenges	12) <i>administration can't keep up with teaching reform</i> ; 13) <i>time consuming</i> ; 14) <i>teaching load</i> ; 15) <i>support through the subject teachers</i>

Results

This study aims to examine whether curriculum system can avoid the course content repetition and meet the demands of the nation, society, and the students. The results can be as follows.

Aspects of How Feasible This System Helps Teaching and Learning

More Reasonable Course Arrangement

With the new curriculum system, courses are divided into three levels for undergraduates, graduates and PhD students as shown in Figure 1 and 2, to ensure the course content is without repetitions but based on students' needs. As Teacher A, the director of the college English section, said: "*This curriculum system avoids the repetition of the course content, because of its clear focus on each level of students*" (Interview, June, 21, 2021). Another teacher, B claims that *this system allows me to choose materials according to my students' needs* ((Interview, June, 21, 2021).

More Beneficial to Students' Needs

The curriculum system has stimulated students' enthusiasm for learning and achieved remarkable results. 91% of the students agreed that the courses can meet their needs. The curriculum system covers more than 10,000 students each year. Among them, two translation courses for undergraduates have been extended to the MOOC platform, benefiting teachers and students in universities across the country. The students actively participated in the "Chinese University Students' 5-Minute Scientific Research English Speech" contest, the simulated recruitment contest, and all kinds of university students' English competitions. The professional communication English course for masters enhances students' ability to communicate with their majors. More students participated in and won awards in job application simulation competitions and various English proficiency competitions significantly. The course, English for international academic communication, for Ph.D. has benefited students from various disciplines, and this led to more published academic articles. The survey from the questionnaire supports the feasibility of this system. 83% of students strongly agree with this reformed curriculum system. As an undergraduate student said in the interview, "*We not only learned to give presentations in English but also learned to express ourselves appropriately. We also learned how to select our topic for a research project, the structure of the project writing, review literature, including citation and reference, and how to discuss with our peers, and finally get an agreement with compromise*" (after-class interview, May 26, 2021).

Ways of How This Curriculum System Help Both Teacher Development and Students' Real Needs

More Challenges but More Achievements

The construction of this curriculum system has promoted the communication and exchange between college English teachers and subject teachers, forming an interdisciplinary teacher learning community. College English teachers have changed their identities from ordinary English teachers to various identities, which are mainly reflected in the following aspects: ① With the help of the school-level innovation project, more than 60 subject teachers joined the community. The language teachers and subject teachers can have chances to help each other through taking their respective advantages. For example, the language teachers can get familiar with the subject contents for their ESP courses by revising the language mistakes of the research articles written by the subject teachers, while the subject teachers can publish their research articles in English with the help of the language teachers. On the postgraduate teaching platform, team members explore ways to combine "internationalization of English courses" and "internationalization of scientific research" to enhance postgraduate's international academic communicative skills. At the same time, an interdisciplinary platform will be set up to provide high-level language services for publishing academic achievements of PhD students of Chongqing University and participating in international academic communication in cooperation with materials schools, electrical engineering schools and mechanical schools. Interdisciplinary community has assisted Ph.D. students to publish their research articles. At the same time, interdisciplinary community helps the language teachers to collect useful course materials. As a teacher claims that "*this hierarchical management and teaching greatly encouraged me, and guided to deal with the teaching research*" (Teacher T, WeChat Record, 2021.6.25). The survey also indicated the positive feedback of this course outcome. 90 % of students believe that this system provides a variety of courses for them to choose from, which meet their demands for interests.

The Development of Teachers' Professional Knowledge

This curriculum system integrates the characteristics of students' professional disciplines into college English curriculum teaching. For many years, the college English teachers have engaged in their limited area, focusing more on the language form rather than the language use in teaching without thinking of students' needs for future work and present university study and future work. They repeated their teaching by following the coursebook and thus this directly leads to the disconnection between English teaching and students' professional learning.

To encourage English teachers to better understand this curriculum system, an interdisciplinary teacher development community has been conducted since 2017 to help English teachers be aware of the new role and improve their teaching. The interdisciplinary community put together the language teachers, professional teachers from various disciplines, and their doctoral teams. That is, subject and English teachers are arranged into different groups according to their disciplines (for professional teachers) and interests (for English teachers). English teachers are responsible for the language support services for professional teachers' academic papers. Under the guidance of leading professors, teachers from both sides polish and improve the academic article structure, logic, and language. At the same time, English teachers actively share ideas about improving the curriculum reform with peers and explore the possible ways of teaching and research with this system. Now the team compiled teaching materials based on this community practice, and tried to write academic articles for publication, which improved the curriculum system and promoted the teachers' professional development.

The Bridge Between College English Teachers, Students With Professional Needs, and Subject Teachers

At present, the college English teachers have problems such as the limited teachers' professional development, which directly leads to the disconnection between English teaching and students' professional learning. The interdisciplinary teacher development community based on the system helps promote close cooperation between subject teachers and college English teachers to effectively overcome college English teachers' fear of professional knowledge teaching. The community gave full play to the advantages of English teachers in language and teaching methods, and set up EMI (English Medium instruction) trainer team to provide English teaching training for discipline teachers from other faculties. The establishment of this interdisciplinary community has promoted the perfection of the curriculum system of "English+Major" (see Figure 3), and the enthusiasm has increased unprecedentedly. The proportion of students participating in various competitions and winning awards, participating in international academic conferences, and publishing academic papers in international journals has increased significantly. "*This interdisciplinary teacher development community has helped me to find a team in which some teachers share the same interests*" (Teacher C, WeChat message, April 3, 2018). College English teaching at the tertiary level has been plagued by the problems of disjunction between language foundation improvement and comprehensive application ability and the disjunction between students' language learning and subject learning and future career development. This curriculum system combines the national development, social needs, the need for double-class construction of the university, and the students' needs, establishes a link between the students' subject learning needs and college English, and constructs the progressive English course model related to the subject content according to the hierarchical guidance of undergraduate, graduates, and post graduates (see Figure 1).

Discussion

This study aims to examine whether curriculum system can avoid the course content repetition and meet the demands of the nation, society, and the students by answering the following two questions: 1) In what aspects is this curriculum system feasible for teaching and learning? 2) In what ways does this curriculum system help both teacher development and students' real needs?

Feasibility of This Construction

The construction of the curriculum system solves the problems of repetition of the courses for each level as scholars and teachers have often criticized (Cai, 2004, 2007; Liang et al., 2006; Luo & Li, 2008; Sun & Gu, 2009). The repetition of the past courses for each level not only wasted the time of students who learn the language itself and language skills without thinking why and how to learn. The new curriculum encourages to learn English with students' disciplinary content with the levels from undergraduates to Ph.D. Besides repetition, this curriculum has more focuses on students' needs for their future career and the society, because the courses provided are hierarchical, open and systematic (Wang, 2008; Wu, 2022) for each level as the curriculum system shows.

The Help for Teacher Development

The construction of the curriculum system provides teachers with the opportunity to do their own action research (Kemmis et al., 2014) through the interdisciplinary teacher community, in which English teachers share their ideas of teaching. The most importantly, English teachers have found their teaching research focus. For example, by offering the subject teachers' language service for their article publication, where English teachers collected course materials. Besides, the negotiation of an enterprise occurs and develops throughout the interdisciplinary community (Huang & Xu, 2020; Wenger, 1998), often getting stronger as relationships are developing. Given the potential differences in each of the members' teaching philosophies and beliefs, they must find a way to work together, understand their differences and coordinate their aspirations (Safran, 2010; Wenger, 1998).

The Help for Students Real Needs

This curriculum system mostly meets the students' needs and arouse students' interests in learning English through different competitions. The curriculum offers different optional courses for students to select, and this avoids the repetition from different levels of courses. Besides, by using ESP course concept "learning centered" approach (Huang et al., 2017; Hutchinson & Waters, 1987; Li et al., 2020), students are offered more chances to make decision through doing different projects based on their own discipline. The way to link the language learning with the subjects learning helps students understand their disciplines and feel more interests in learning English.

Conclusion

To solve the long-standing problems of the general English curriculum system in a key university of China, this study constructed a curriculum system based on the "learning-centered" approach, hoping to solve the problems of repetition of the course content and for different levels of the college English from undergraduates, graduates and PhD students. The combination of qualitative and quantitative methods was used to investigate its feasibility and effectiveness. The curriculum system is characterized for its systematics, hierarchy and openness for each level of students, from which every level in the course curriculum has different focuses with hierarchy. Students can have more options to choose the courses they need, while teachers have more chances to use appropriate materials. Through a year trial, it is concluded that this curriculum system can guide teachers' teaching research, provide more chances for teachers to use different materials, promote the integration and development of English teachers and professional teachers, encourage the innovative development of general English teaching, and explore an effective way to cultivate compound talents to enhance students' international communication and research ability, while students can be offered more options to choose needed courses. The project/task inquiry teaching method and innovated the teaching mode are encouraged to use to meet the needs of talents in different levels. It is hoped that this curriculum system may avoid the problems of unclear objectives, repetitive content, and weak progression of college English at all levels, cultivate students' language competences in communication, innovation, critical thinking and cooperation in their future academic research and career development with both academic accomplishment and global vision.

Recommendations

The construction of curriculum system has educational implications. It can encourage both the teachers' and students' active teaching learning (Pahl & Kenny, 2008), though more challenges are provided with teachers. This curriculum system requires teachers' professional ability. Although the construction of the system breeds teachers' development, only some teachers take action. How to make teachers think positively and combine teaching with research, so as to improve the teaching quality and have more thinking in teaching research, needs to be adjusted at any time with the continuous improvement of the curriculum system. How to encourage more teachers to participate in this curriculum system and fully understand the essence of this curriculum system still has a long way to go. Therefore, teacher development is suggested the most essential and effective way if the construction of the system needs to continue. The teaching administration must consider this with more care in the future.

Limitations

However, this study has some limitations as follows. Firstly, the curriculum system only aims at the integration construction system of college English from undergraduate, graduates and PhD students in a key university, and the samples collected are limited, though it can represent the Chinese context to some extent; Second, the changes of various courses in the curriculum system have brought teachers more thinking, but more workload. Thirdly, there are fewer cases to support the efficiency of the teacher development.

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