Research on College English Teaching Model Reform Based on Flipped Classroom

Jingjing Xie
College of Foreign Languages and Literature, Wuhan Donghu University, Wuhan, Hubei, 430212, China
author’s e-mail: 123696860@qq.com

Abstract. With the rapid development of science and technology, information technology has been widely applied in modern education. It is an urgent need to further enhance College Foreign Languages teaching reform and cultivate high-quality and versatile international talents. College English teachers should exploit and construct courses based on computer and the Internet in order to provide students with better language learning environment and condition. Flipped Classroom teaching mode actually applies modern information technology, especially the network technology, and makes College English teaching and learning unrestrictive anytime and anywhere to some extent, in order to develop towards individuality and autonomous learning. This paper introduces current College English teaching model reform trend. Then, theoretical basis of College English Flipped Classroom and methodology are exhibited. It makes quantitative and qualitative analysis of questionnaire, interview and test and discusses the results due to statistical data. Finally, it draws the conclusion that College English teaching model reform based on Flipped Classroom is feasible and effective.

1. Introduction
The year of 2021 is the 100 anniversary of foundation of the Communist Party of China, the beginning year of the 14th Five Year Plan. It is vital to implement President Xi’s significant exposition and the spirit of National Education Working Conference, adhere to new development concept, promote high-quality development as the subject, and take reform and innovation as fundamental impetus.

“Work outline of Department of Higher Education of the Ministry of Education in 2021” proposes that New Liberal Arts Construction comprehensively promoted in College and University needs optimization of specialty, advancing quality of course and mode innovation. Further enhance College Foreign Languages teaching reform and cultivate high-quality and versatile international talents. College English Curriculum Teaching Requirements confirms modern information technology should be widely applied in College English curriculum design, teaching mode, teaching evaluation and teaching management.

Merits of College English Teaching Model Based on Flipped Classroom are exhibited. College English teachers could exploit and construct courses based on computer and the Internet in order to provide students with better language learning environment and condition. To improve traditional one-way teaching mode mainly relying on the teacher’s lecturing, Flipped Classroom teaching mode actually applies modern information technology, especially the network technology, and makes College English teaching and learning unrestrictive anytime and anywhere to some extent, to develop towards individuality and autonomous learning. Teaching process also embodies the main body of the learner and dominant role of the teacher. College and university should explore and build listening and
speaking teaching mode under the network environment, where teaching and training can be achieved in local area network or campus network. Reading, writing and translation could be taught either in actual classroom or computer network environment. Formative evaluation is beneficial to effective supervision of students’ learning process in Flipped Classroom. Teaching management could be perfected. Credits students get by learning online should occupy no less than 30% in College English course total credits. College English teacher should adapt to new Flipped Classroom teaching mode as soon as possible, which promotes a gradual improvement of academic level and teaching approach.

2. Theoretical basis
Flipped Classroom turns one-way teaching into interactive teaching. The teaching subject becomes the learner instead of the teacher. Students would be willing to and skillful in mastery and application of knowledge in the process of learning. College English course covers a wide range of learners. Teaching level and learning effect need to be improved in this circumstance. Proper teaching theory should be applied to College English classroom urgently. College English Flipped Classroom depends on internet and computer technology, innovative teaching mode and ideas, scientific teaching management, and student-centered learning theory. Centered on College English learners, the College English Flipped Classroom involves theoretical basis of pedagogy, psychology and philosophy: Master Learning Theory, Constructionism, Autonomous Learning Theory, Cooperative Learning Theory, Activity Theory, Blend-learning Theory and etc.

Bloom’ Master Learning Theory is the core of his educational theory, which draws attention to major variable of teaching and helps most of the students master knowledge. Constructionism attaches importance to subjective initiative of learners, and they should actively construct knowledge in real task and environment. Autonomous Learning Theory promotes reforms in education. In the background of modern technology and culture, individual of autonomous development should possess the spirit the ability of innovation. Cooperative Learning Theory helps cultivate ability in interpersonal communication, awareness of competition. A learning team as the unit enhances students’ subjective ideology and the teacher’s dominant view. Problem-based, performance and discussion teaching model could be applied in College English Flipped Classroom. The external manifestation of activity theory lies in the network and hardware development, while its internalization puts emphasis on knowledge, skills and theory absorbed. Blend-learning theory, an emergent teaching learning in the field of education, is considered as a mixed teaching theory of online learning and face-to-face learning. It accord with the idea in College English Flipped Classroom: in virtue of the network and internet, students complete learning tasks systematically and efficiently under the supervision of the teacher.

3. Methodology
3.1 Research hypotheses
This research gives hypotheses, and is carried out due to probability and validity of College English teaching model based on Flipped Classroom. Hypotheses are as follows:
1) Students would be attracted by College English Flipped Classroom, for his new teaching mode by means of network and computer technology would be innovative, convenient and flexible.
2) Variable teaching form of College English Flipped Classroom could prompt five English basic skills of students.
3) Students’ critical thinking and practical application competence are enhanced after College English Flipped Classroom is executed.
4) Students’ autonomous learning ability would be improved through College English Flipped Classroom teaching.
5) College English Flipped Classroom would be practical and valid in modern times.

3.2 Research instrument
After determining research subject, research instrument should be followed. Flipped Classroom is a
new teaching mode, whose appearance and practice requires investigation method firstly. In the earlier stage, questionnaire and interview are used to collect students’ attitudes towards traditional College English classroom and network platform, and their English ability change before and after College English Flipped Classroom. Then pre-test before the experiment and Formative Assessment in the process of empirical research, and should be fully considered. After experiment, post-test, Summative Assessment could evaluate teaching and learning effects to a certain extent.

3.2.1 Questionnaire
Before experiment, questionnaire investigation involves the experimental group and the control group. Two group members participate in questionnaire investigation. Questionnaire contains satisfactory degree of teaching facilities of College English, attitudes of traditional teaching mode, acceptable degree of Flipped Classroom. After experiment, questionnaire investigation is targeted at the experimental group to explore whether students welcome and adapt to Flipped Classroom mode and their learning experience and real feelings.

3.2.2 Interview
Interview faithfully and accurately reflects personal view to some question. There are four questions related to feasibility, concrete implementing means and requirements on students of College English Flipped Classroom before experiment, and construction, teaching mode, learning suggestions of College English Flipped Classroom after experiment separately. Each question would be answered by four students, two of the experimental group and two of the control group respectively before experiment and four students from the experimental group after experiment.

3.2.3 Test
Pre-test and post-test are either objective or subjective assessment. They are integrative joint tests for the whole grade, authoritative inside campus. Pre-test is considered as the criterion to distinguish the experimental group and the control group. Post-test is final examination as well, which helps compare learning effects of the experimental group with that of the control group after experiment.

3.3 Research design
Research subject is the undergraduate who entered college in 2019. Two classes are chosen due to the similar class average score of test paper score in their second semester. The experimental group is taught in traditional College English classroom, while the control group in College English Flipped Classroom in the first semester of the sophomore year. In the first half of 2020, early preparation stage defines research target, and first stage carries out investigation, analyzes statistics and establishes the scheme to establish network platform after the teacher summed up the experience of online teaching of our College in the first half of last year.

In the second half of 2020, an empirical research was executed for sophomores of the experimental group and the control group. For the experimental group, the teacher records and uploads teaching micro lecture video before class; release internet and electric resources before and after class; according to the different characteristic of five English skills, set different English tasks matched with Flipped Classroom teaching mode in English classroom. Teaching evaluation is composed of Formative Evaluation and Summative Evaluation, given feedback by the teacher and students, assisted with network technology and offline means. At the same time, the control group remains taught in traditional College English classroom.

At the beginning of 2021, through EXCEL and SPSS, the teacher collects data and makes quantitative analysis and comparison of investigation paper, makes qualitative analysis of interview, and figures out teaching effects influenced by College English Flipped Classroom. This stage could testify those hypotheses in preparation stage, probability and validity of College English teaching model based on Flipped Classroom, which prompts College English teaching model reform.
4. Results and Discussion

4.1 Results and analysis of questionnaire

Ten questions with three choices of agree, disagree and uncertainty are posed from three perspectives of satisfactory degree of teaching facilities of College English, attitudes of traditional teaching mode, and acceptable degree of Flipped Classroom before experiment. Two groups hand in their questionnaires. Investigation data would be analyzed through Microsoft Office Excel (EXCEL). In terms of satisfactory degree of teaching facilities of College English, there are three items: You like to learn College English with the aid of information technology; You are satisfied with current teaching facilities on campus; Network and computer technology should be better used in teaching. According to statistical data, it reveals that students more incline to be interested in and use teaching facilities and information technology. Towards attitudes of traditional teaching mode, three are four items: You think current teaching mode is a bit boring; Listening and reading occupies too much time in class; You have slim chance of practicing speaking and listening in College English course; Translation and writing couldn’t be improved remarkably in class. After collecting statistical data, the result shows that most students think current English classroom could be improved and traditional English teaching mode should be updated in order to enhance five English basic skills. For acceptable degree of Flipped Classroom, there are three items: You have heard Flipped Classroom; You hesitate to attend Flipped Classroom; You are expecting the effects of this new teaching mode. Investigation data indicate that students are interested in this new teaching mode and desire to challenge traditional College English teaching mode.

After experiment, questionnaire investigation from the experimental group is collected to explore whether students welcome and adapt to Flipped Classroom teaching mode and their learning experience and real feelings. Items include: You adapt to Flipped Classroom teaching mode; Flipped Classroom is interesting; You are more active in classroom; You have more useful electric materials for College English assisted by network teaching platform; You have more confidence in my English learning ability; You are willing to spend more time on English; You like rich class activities; You receive more guidance of the teacher; You enjoy cooperation learning with my teammates; The relationship of my classmates, my teacher and me become harmonious through College English Flipped Classroom. According to statistical data of the experimental group, a majority of students display satisfaction and approval of College English Flipped Classroom. They think their learning attitudes are changed and learning strategies are improved after experiment. They also feel that teaching mode is innovative and variable, online and offline. Their learning autonomy had been obtained. They are basically positive to College English Flipped Classroom.

4.2 Results and analysis of interview

The first interview focuses on feasibility, concrete implementing means and requirements on students of College English Flipped Classroom before experiment. The questions are as follows:

Q1. What factors could influence your English learning?
Q2. What do you think of teaching facilities in our College?
Q3. What do you expect could College English Flipped Classroom bring you?
Q4. Will Flipped Classroom be more attractive than traditional English Classroom?

For question one, four students from the control group and of the experimental group list out a lot of factors which influence their English learning, such as teaching facilities, learning atmosphere, learning motivation, etc. For question two, what they mention about most is network platform and computer which provide them with more chances of exercising and consulting. For question three, they think Flipped Classroom is a new teaching mode, and hope it can arouse their interest and improve their English level. For question four, it is obvious that they more concern about the form of Flipped Classroom and what they should do in this new mode. All in all, the first interview shows students are positive to Flipped Classroom, and curious to its concrete implementing means and requirements on students.
The second interview is about construction, teaching mode, learning suggestions of College English Flipped Classroom after experiment. The questions are as follows:

Q1. Do you like College English Flipped Classroom?
Q2. What’s your suggestion about construction of College English Flipped Classroom?
Q3. Do you think that new teaching mode can improve you English learning ability?
Q4. Do you achieve the goal of learning to learn in new teaching mode?

After experiment, four students of the experimental group are basically satisfied with College English Flipped Classroom. They agree that their five English skills are gradually improved, due to a certain amount of exercises and continuous guidance of the teacher. According to construction of College English Flipped Classroom, they think it’s an effective way to learn English online and offline, and the teacher plays a dominate role in classroom while students are main body of classroom. The teacher’ ability of controlling classroom could be better. Students hold that they are more confident and pleased to find out good strategies in English learning themselves.

4.3 Results and analysis of pre-test and post-test

The experiment has carried out in the second half year of 2020. Before and after the experiment, the final exam scores of the experimental group and the control group chosen from the undergraduate classes who entered college in 2019 were collected separately. Pre-test data was handled and analyzed through Statistical Packages for the Social Sciences (SPSS) in the end of second semester in the freshman year, while post-test’s statistical data in the end of first semester in the sophomore year.

| Table 1. Pre-test’s Statistical Data |
|-------------------------------------|
| Final Exam Score | pre-test | Group | Mean | Min | Max | Std. Deviation |
| Experimental Group | 78.03 | 27 | 92 | 11.73 |
| Control Group | 78.56 | 45 | 95 | 12.24 |

According to the above pre-test’s statistical data, two chosen groups have similar mean score before the experiment, which proves that their English basic knowledge and levels are alike and two groups ensure comparability of the experiment. The lowest score and highest score in each class shows that the poorest student and the excellent student in the experimental group and control group make a significant difference of English levels for two classes. Standard deviations for these two groups are not distinctive so that students’ overall English levels are basically average.

| Table 2. Post-test’s Statistical Data |
|-------------------------------------|
| Final Exam Score | post-test | Group | Mean | Min | Max | Std. Deviation |
| Experimental Group | 80.63 | 59 | 96 | 9.2 |
| Control Group | 79.02 | 40 | 96 | 10.65 |

After the experiment for a semester, post-test’s statistical data was listed out above. Under traditional College English teaching, the control group has made insignificant progress after a semester. Compared with the control group, the experimental group has mean score increased by more than two points. Min score of experimental group has greatly increased from 27 to 59. Its standard deviation is lowered to 9.2. It illustrates that the poor student has made rapid progress, though the lowest score is only 59 near the passing score. Standard deviation of experimental group shows that the students’ overall English levels are obviously improved, compared to that of pretest.
5. Conclusion

5.1 Major findings
The process and results of the experiment has testified research hypotheses before the experiment. The teacher’s teaching approach and the level of instruction are facilitated. Teaching effects are obvious and College English based on Flipped classroom become well accepted by students. College English teaching based on Flipped classroom lays emphasis on students’ overall English levels and abilities, where their learning motivation has been enhances and practical ability is cultivated. Students’ Collaborative learning and autonomous learning ability are gradually improved.

5.2 Teaching implication
College English Teaching Model Reform Based on Flipped Classroom helps application-oriented universities cultivate interdisciplinary talents of good practical ability. Integrated content and design for flipped classroom is targeted at different unit, due to teaching goal, style of text and task-based teaching approach. The organized forms of classroom including theme discussion, scenario simulation and product reporting could prompt active English output critical thinking skills and overall English practical ability of students. Assisted with network technology and offline teaching, Formative Evaluation and Summative Evaluation, College Flipped classroom is given feedback by the teacher and students. Innovative teaching mode and ideas, scientific teaching management, and student-centered teaching mode are adapted to students’ development.

5.3 Further development of College English Flipped Classroom
College English Flipped Classroom brings about teaching innovation. The network and computer technology level of College English teacher is worthy of concern. Hardware and software supported by universities should be properly enhanced. Teaching model of College English flipped classroom should be deeply probed into. More effective teaching approach should be explored. Colleges and universities should fully utilize information technology to construct web-based learning center, web-based teaching platform of online course to help achieve personalized learning of students. More practical researches based on College English Flipped Classroom should be made great contribution to in the near future.

Acknowledgments
Periodical achievement of 2020 Wuhan Donghu University educational research project by project leader Jingjing Xie - Research on College English Teaching Model Reform Based on Flipped Classroom

References
[1] He, B. & Wang, T. (2019). Flipped Classroom and English Teaching. Jilin People’s Publishing House, Changchun.
[2] Mehring, J., & Leis, A. (2018). Innovations in Flipping the Language Classroom. Springer, Switzerland.
[3] Qian M. Q. (2017). Research on College English Teaching Reform at Present. Beijing Institute of Technology Press, Beijing.
[4] Zhang Y. L. (2018). English Teaching: Theory, Model and Approach. Ocean University of China Press, Qingdao.
[5] Zhou Y. (2014). A Research on Ecological Niche of English Teachers Based on Modern Information Technology, Beijing Normal University Publishing Group, Beijing.