

Flipped Classroom Model Based Instruction of College English in ICT Environment

Weiran Zhang

Foreign Languages Department
Beijing Institute of Petro-chemical Technology
e-mail: zhangweiran@bipt.edu.cn

Rongxia Wang*

Beijing Normal University
Center for Faculty Development
Beijing Institute of Petro-chemical Technology
e-mail: wangrongxia@bipt.edu.cn
*corresponding author

Jinjun Chen

Mechanics Engineering Department
Beijing Institute of Petro-chemical Technology

Abstract—With the recent development in ICT environment, College English learning and teaching mode has undergone a huge transformation. The concept of flipped classroom and its features were outlined. The problems in current College English teaching and how to construct a flipped classroom teaching model were elaborated. The role a flipped mode plays in promoting College English teaching and problems in its implementation were pointed out. This paper is intended to serve as a guide to instructors seeking to develop, implement, and evaluate innovative and practical strategies to transform students' learning experience.

Keywords—*Flipped Classroom; College English; ICT environment*

I. INTRODUCTION

Recent calls for educational reform highlight ongoing concerns about the ability of current teaching mode to equip college students with the skills for English competence. Whereas a wide range of proposed solutions attempt to address apparent deficiencies in current College English teaching models, a growing body of literature consistently points to the need to rethink the traditional in-class, lecture-based course model. One such proposal is the flipped classroom, in which content is offloaded for students to learn on their own, and class time is dedicated to engaging students in student-centered learning activities, like task-based learning and inquiry-oriented strategies.

In the fall semester of 2014 and spring semester of 2015, the authors of the paper flipped a College English course at the Beijing Institute of Petro-chemical Technology. They offloaded all lectures to self-paced online videos and used class time to engage students in active learning exercises. In this article, the authors describe the philosophy and

methodology used to redesign the College English course and outline the research they conducted. As class attendance, students' engagement, and the perceived value of this model all increased following participation in the flipped classroom, the authors conclude that this approach warrants consideration as educators aim to enhance learning, improve outcomes, and fully equip students to address 21st-century needs.

II. LEARNING AND TEACHING MODE TRANSFORMATION IN ICT ENVIRONMENT

During the computer era of the past fifty years, education has been re-conceptualized around the construction of knowledge through information processing, modeling and interaction [1]. Now, as people are entering a new world of ICT (Information and Communication Technology) and global digital communication, there appears transformation in learning and teaching mode. As a group of people who are passionate, active and who like challenges and be willing to accept new things, college students have been a kind of pioneers in ICT environment.

According to the latest statistic report published by China Internet Network Information Center (CNNIC) (CNNIC, 2015), the total number of Internet users in China reached 649 million by the end of December 2014, among which the number of college students is absolutely remarkable. Mobile internet users reached 557 million, an 11% increase [2]. Mobile devices are more and more popular for college students who connect to the internet via a variety of wireless mobile devices to watch videos, download online learning resources, communicate with their classmates and teachers, and to do interactive learning. Mobile learning can overcome restrictions of time and space, enabling learners to study whenever and wherever possible.

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The recent years saw a rapid development of teaching techniques and mode. Educational informatization has been brought into the national informatization development strategy by 2020; the development of educational technologies has tended to be mobilized, portable, and personalized. These trends have led to teaching forms changing from traditional classroom learning to internet teaching. MOOCs (massive open online course), an online course aimed at unlimited participation and open access via the web, is a recent and widely researched development in distance education [3] which was first introduced in 2008 and emerged as a popular mode of learning in 2012. [4] In addition to traditional course materials such as filmed lectures, readings, and problem sets, many MOOCs provide interactive user forums to support community interactions between students, professors, and teaching assistants, thus it escapes time zones and physical boundaries, lower students' entry and enhances personal learning environment. Besides, the adoption of technology-driven teaching method known as the "flipped" approach to teaching has been gaining in popularity in recent years. It is called "flipped instruction" flipped classroom or inverted classroom, because it flips the time-honored model of classroom lecture and exercises for homework. In 2014 NMC Horizon Report, the flipped classroom is regarded as one of the six important developments in educational technology for higher education [5]. With the development of modern technology and the spreading of the flipped classroom initiated by American practitioners, Chinese educators began implementing the flipped classroom recently.

III. PROBLEMS IN TRADITIONAL ENGLISH CLASSROOM

A. Large multilevel class

In China's traditional English classroom, instructors teach groups of sixty or more students in classes where students not only differed in language acquisition ability, but also in motivation, self-discipline and attitude. The number sometimes is even up to 80. The job of teaching the large class presents teachers with a great many obstacles, such as disordered activities and organization, trapped in the problems of management, lack of individualized guidance, incompetent for providing equal opportunity for every student.

B. Lecture-oriented class

The traditional English classes are teacher-centered instead of students-centered. With most of the class time being occupied by the lectures (words, grammar, text analysis etc), there is little time for discussion, oral report and other collaborative activities. College English teaching has the deficiencies such as poor attendance, low engagement, students' poor autonomous learning ability, or evidence of decreased learning.

C. Imbalance between input and output

Both input and output are essential in learning English. As input provides learners with exposure to language materials and language learning environment, output affords

them opportunities to express thoughts and feelings in English. However, emphasize was put on language input, such as reading, listening and language. Output is insufficient in the traditional English class, which lead to students' poor English proficiency.

D. Lack of critical thinking

- Critical thinking is an inevitable complex process in human mind to evaluate and to judge information based on certain standard. It analyzes thought, assesses thought, and transforms thought for better.
- According to the College English Curriculum, the value orientation of College English teaching lies in the integration of Instrumentality and Humanity. That's to say, this course is also a tool to cultivate students' virtues and critical thinking. However, in a traditional College English class, teachers prefer to spend time showing some relative pictures, PPT or teaching video, or busy analyzing the new words and expressions, ignoring cultivating critical thinking of students.

Faced with these problems emerging from traditional College English teaching, the authors believe that flipped based instruction could provide a solution.

IV. FLIPPED BASED INSTRUCTION

A. Origin and definition

Since the two American teachers Jonathan Bergmann and Aaron Sams pioneered the flipped classroom concept, many teachers and scholars around the United States have already implemented flipped classroom strategies. They record their lessons in their computers, create videos of their teaching, or use video lessons from internet sites such as TED-Ed. They flip their classroom by using these available materials as their students' homework. While in class, hands-on activities are implemented through which students do the real inquiry-based learning and active learning. Many cases reported that the flipped classroom has been greatly effective [6] [7] [8].

The flipped classroom strategies enhanced active learning in that student academic performance is improved and student engagement and critical thinking is increased. The flipped classroom describes a reversal of traditional teaching where students gain first exposure to new material outside of class, usually via reading or lecture videos, and then class time is used to do the harder work of assimilating that knowledge through strategies such as problem-solving, discussion or debates. (Vanderbilt University, Center for Teaching).

Flipped Learning is a pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter. (from the flipped learning network)

The difference between traditional class and flipped class is illustrated by the following two charts “Fig. 1” & “Fig. 2” (by Liu Xiaobin, South China Normal University)

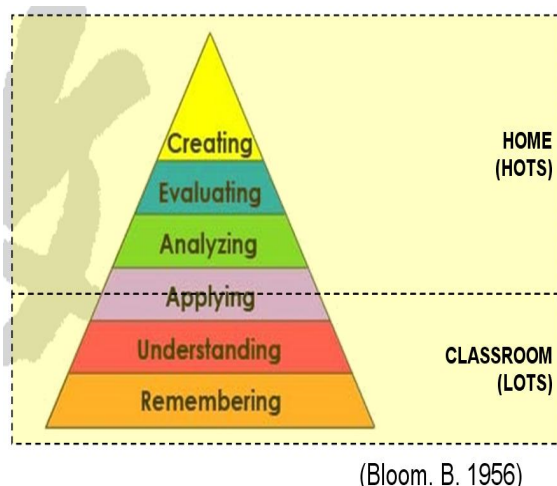


Fig. 1. Traditional English Teaching

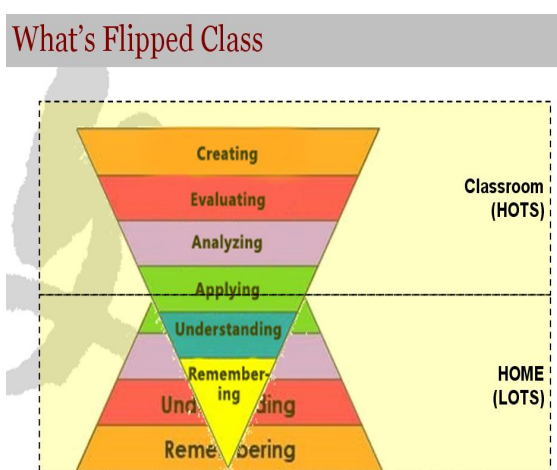


Fig. 2. Flipped based English Teaching

B. Features

A flipped classroom swaps the arrangement of knowledge imparting and knowledge internalization compared with traditional classroom. In the flipped classroom, the roles of teachers and students have been changed and the class time should have a new plan. Information technology and activity learning construct an individuation and cooperative learning environment for learners to create new learning culture. Its features are as follows:

1) Information technologies as carrier

Information technologies are one of the important features of the flipped classroom as they can be used to: capture main content for students to access at their own convenience and to suit their pace of learning (e.g. readings, lecture material, interactive multimedia); present multimodal learning materials in a variety of formats to suit different

learner styles; provide chances for discourse and interaction in and out of class; convey timely information, reminders for students (e.g. micro-blogging, announcement tools), etc.

According to Inside Higher Ed, a recent study by the Campus Computing Project showed that more than two-thirds of U.S. colleges and universities are already, or willing to start, using lecture-capturing software to make lectures available to students at home—the gateway to a large-scale flipocracy.

2) Students as center in learning

Students are active knowledge inquirers and owners in the flipped College English Instruction. Students take more responsibility for their own learning and study core content either individually or in groups before class and then apply knowledge and skills to a range of activities using higher order thinking. Thus teaching video should be offered on the basis of students' interest, learning needs, intrinsic knowledge and characteristics of psychology.

3) Teachers play multiple roles

In traditional English class, teacher always plays the role of leader or controller. By contrast, he or she focuses more on facilitation and moderation than lecturing, though lecturing is still important. Significant learning opportunities can be gained through facilitating active learning, engaging students, guiding learning, correcting misunderstandings and providing timely feedback using a variety of pedagogical strategies. He or she is the organizer, participant, provider, facilitator, evaluator and investigator of the class, helping and guiding small groups and individuals toward learning success.

4) A variety of activities

In a flipped base college English class, the instructors do not prepare to teach material that the class already understands, instead, they design and organize a variety of activities in the face-to-face setting. Class time is then devoted to practical applications of the lesson — often more creative activities such as collaborative projects, retelling the story, oral presentation, interview, role-play, debate, etc, are designed to engage students, deepen their understanding and promote internalization of knowledge.

Just as what “Fig. 3” (from <http://flipteaching.com/>) shows, current mobile and internet technologies bring a wider range of educational resources to the students. The out-of-the-class portion in flip teaching is now supported by screencasting and vodcasting (video-on-demand casting), bringing a much richer experience to students, while having their lectures at home. Additional advantages are that students can watch the lecture at their own pace and communicate with teachers and peers via online discussion boards.

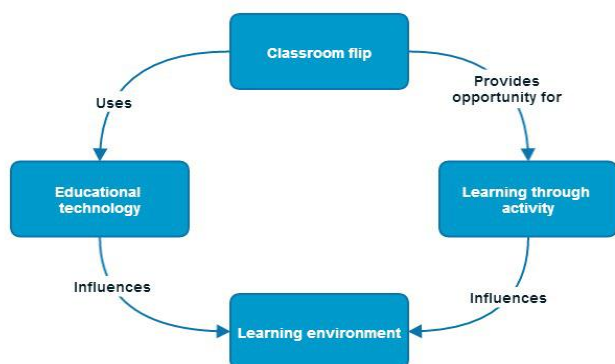


Fig. 3. Components of flipped based instruction

V. REASONS FLIPPED CLASSROOMS WORK IN COLLEGE ENGLISH CLASS

A. Increases student engagement

In a traditional, lecture-based College English classroom, students have low engagement and previous reports show students respond well to using classroom time in a way that's more geared toward discussion. By moving lectures out of the classroom, the flipped classroom invites students to shift from being a passive presence in the classroom to becoming actively engaged participants in the learning process.

From the response of students who took the flipped class, the authors found the difference between classroom before flipping and after is dramatic. The students are fired up now. They're just devoted to active learning during the entire class period. The instructors broke lecture into short podcasts that accompany online materials. Every class begins with a brief quiz to make sure everyone is at the same level of comprehension with the material. Then the real class begins in which students actively engaged in a dynamic learning community. The value of a flipped class is in the repurposing of class time into a workshop where students can inquire about lecture content, test their skills in applying knowledge, and interact with one another.

B. Offers personalized student guidance

In a flipped learning environment, self-paced instruction and personalized student guidance are realized. Flipping the classroom also makes differentiating instruction based on students' needs easier because everyone does not necessarily need to do the same task in class [9]. The use of video and other prerecorded media puts lectures under the control of the students and they are able to learn at the pace that best suits them: they can watch, rewind, and fast-forward as needed. By contrast, in a traditional lecture, students often try to capture what is being said at the instant the speaker says it. They cannot stop to reflect upon what is being said, and they may miss significant points because they are trying to transcribe the teacher's words.

What's more, because data in a flipped model is collected and presented in a straightforward way, teachers are able to

provide personalized instruction to some degree, especially for some difficult points such as grammar.

C. Strengthens team-based skills

Although lectures are watched individually and tests still measure each student's comprehension level, teamwork is an integral part of in-class discussion. A classroom flip provides opportunity for active learning and student engagement through a wide range of hands-on activities, like discussions, workshops, discussion forums, short play acting, debates, problem solving and critical thinking. Team-based approaches are likely to be even more important in flipped class as the increasing use of technology is prompting more collaboration-based projects. Class time being more effective through team-based activities also tends to make students feel like showing up is worth the effort.

VI. CONCLUSIONS

A flipped classroom teaching model of College English course was constructed in Beijing Institute of Petro-chemical technology by the authors. After 8 month's experiment, 72% students applaud the teaching innovation since it inspires students, gives them more control over their own learning, and frees more class time for meaningful interaction. Final Test results shows students improved in their English proficiency, especially speaking and listening. What's more, teachers welcome this teaching innovation although it is a big challenge to prepare the materials and redesign the teaching. The primary reason is that it is forcing teachers to reflect on their practice and rethink how they reach their students, therefore their teaching skills could be improved and teacher-students relationships become more harmonious. However, three things should be kept in mind to improve the effectiveness of flipped based teaching: firstly, flip teaching is not replacing the teacher with videos. On the contrary, the role of the teacher becomes more important and active. Secondly, students do watch lectures online or in virtual classroom, but the true benefit of the flipped classroom model lays in the fact that this knowledge is assimilated in class via learning through activity and engaging the students. What's more, efforts should be done to facilitate the development of teachers' cognition and teaching style and provide well-designed information technology training courses for both teachers and students.

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