

On China's English Teaching Reform: From Micro-lesson and MOOCs to Flipped Class

<https://doi.org/10.3991/ijet.v13i01.7465>

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Abstract—This paper aims to find possible ways to reform China's English teaching with the application of micro-lesson, Massive Open Online Courses (abbreviated as MOOCs hereafter) and flipped class. Based on the summary of the current studies on micro-lesson, MOOCs and flipped class, this paper puts forward the necessity and ways of integration and reconstruction, and suggestions for dynamic integration and reconstruction of the three elements. Then it proposes that in the era of big data, only by an effective integration and reconstruction of the three elements, along with the creation of a production-oriented authentic environment of English learning and construction of an individualized mode of English learning, can the learning effects of students be greatly improved and the English teaching reform in China be further pushed forward.

Keywords—micro-lesson, MOOCs, flipped class, integration and reconstruction, English teaching reform

1 Introduction

It is universally acknowledged that the purpose of education is to learn, not to teach, however, the traditional education focuses much more on teaching than on learning.[1] Concerning English education in China, there is no exception. In the era of big data, great changes have taken place in the teaching and learning modes of English education, such as the cognition of teachers and students, roles of teachers and learners, learning materials, learning environment, evaluation and testing.[2]

This paper, through the analysis of the relations among micro-lesson, MOOCs and flipped class, and based on the integration and reconstruction of the three elements, discusses the norms of English teaching from micro-lesson and MOOCs to flipped class, so as to propose possible ways to reform the present English teaching in China.

2 Present studies on micro-lesson, MOOCs and flipped class

2.1 Relations among micro-lesson, MOOCs and flipped class

The integration of information technologies and English courses will inevitably trigger a revolution in teaching.[3] Micro-lesson, MOOCs and flipped class are all products of modern information technologies and closely related to each other. Micro-lesson includes micro-course and micro-lecture.[4] MOOCs, abbreviation of Massive Open Online Courses, are also called courses on the screen in China, which include behavioral MOOCs emphasizing knowledge teaching and correlative MOOCs emphasizing the construction of social networking.[5] In the New Media Consortium Horizon Report (2016 Education Edition), the importance of flipped study is emphasized so as to advocate the promotion of students' critical thinking and abilities of problem solving, collaborative and autonomous learning. Flipped class, as a new teaching mode, is to some degree an overturn of traditional teaching, and a micro innovation on the basis of criticism and inheritance. Micro-lesson, MOOCs and flipped class, although with different features, are closely correlated and feature the fragmented learning in the digital era.

In recent years, some Chinese scholars have begun to carry out reflective studies on the practices of flipped class. Discussions have been conducted in the fields of construction of flipped-class-based English teaching mode and integration of MOOCs and flipped class.[6][7][8] Besides, Wang Hong-lin applies flipped class to the classroom of English-major students and carries out an action research on flipped class in interpretation teaching.[9] By analyzing the essence of flipped class, He Ke-kang tries to predict the prospect of flipped class in China.[10] Investigations conducted among researchers, teachers and parents of students both in America and China show that attitudes towards flipped class are quite controversial and absolutely supporting, strongly opposing and neutral opinions can all be found.[11]

As was shown above, most researchers hold a dualistic attitude towards the relations among micro-lesson, MOOCs and flipped class, and few researches have been conducted from the perspective of integration and reconstruction of the three elements, which will be greatly emphasized in this paper.

2.2 Advantages and disadvantages of flipped class

The teaching procedures of flipped class are: the teacher produces micro-lesson for students' autonomous learning before class; teacher's question answering, discussion between the teacher and students and demonstration of students' learning are conducted in class so as to achieve the internalization and application of knowledge; students further explore their knowledge after class so as to convert their knowledge into ability. While the teaching procedures of traditional education are: students preview the new lesson before class; the teacher focuses on instruction in class; students review the new lesson and finish the exercises after class. Therefore, it can be easily found that flipped class overturns the procedures of traditional teaching by conducting

the instruction before class and dealing with the traditional after-class exercises in class, which will be shown in the following Table 1.

Table 1. Comparison of teaching procedures of flipped class and traditional class

Teaching modes	Before class	In class	After class	Features
Flipped class	Teacher’s production of micro-lesson; students’ autonomous learning	Students’ question asking and teacher’s answering; demonstration of learning; internalization of knowledge	Students’ further exploration of knowledge; conversion of knowledge into ability	Student-centered; students’ active probe; teacher’s effective guidance
Traditional class	Students’ preview of new lesson	Teacher’s instruction; students’ listening; teacher’s question asking and students’ answering	Students’ fulfillment of exercises; lack of application and innovation	Teacher-centered; students’ passive receiving of knowledge

As was shown in Table 1, flipped class and traditional class both emphasize the learning before, in and after class, but with different focuses. Firstly, they have different purposes. Traditional class holds that students’ preview before class is for better understanding the teaching contents in class, while the class time is mainly for teacher’s instruction of knowledge, supplemented by teacher’s question asking and students’ answering, so as to check whether students have understood the teaching contents, and the exercises after class are mainly for knowledge consolidation, few attempts have been shown for knowledge application and innovation; flipped class holds that students finish the understanding of knowledge before class, while in class the teacher answers questions from students to help them internalize the knowledge, and the after-class time is left mainly for students’ further exploration and practice of knowledge so as to convert their knowledge into ability. Secondly, they have different focal points. Traditional class focuses on the understanding and memorizing of knowledge, but neglects the application of knowledge and innovation; while flipped class focuses on the application of knowledge by finishing the in-class activities before class, and leaving the class time mainly for the internalization of knowledge, which, supplemented by further exploration and practice of knowledge after class, can effectively promote students’ ability of knowledge application. Thirdly, they differ in the attitudes towards teaching and learning. Traditional class focuses on what and how to teach for teachers, who are largely responsible for the effect of education; while flipped class emphasizes the dominant role of students by focusing on what and how to learn for students, who are largely responsible for their own study. Therefore, basically speaking, flipped class, rather than an overturn of traditional class, is a reconstruction of the concept on teaching and learning by shifting the focus from teacher’s teaching to students’ learning.

Advantages of flipped class: Goodwin & Miller hold that in a flipped class, it is not only the classroom but also the teaching norm that are flipped, where the teacher becomes a coach to observe and find the real needs of students, helping them to realize the in-depth learning. The features of flipped class include: a) more interaction between the teacher and students; b) immediate feedbacks from the teacher; c) more

devotion for students into learning; d) adjustable learning schedule for students according to their learning needs; e) more productive exercises under the supervision of the teacher in class.[12]

Concerning the effect of flipped class, He Ke-kang proposes that: a) it exhibits the advantage of hybrid learning; b) it conforms more to human's cognitive patterns; c) it helps establish a new type of teacher-student relationship; d) it facilitates the effective application and development of teaching resources; e) it fully exhibits the brand-new concept of "generative course". Zhu Zhi-ting *et al.* propose that flipped class helps students to realize the in-depth and active learning so as to achieve the internalization of knowledge. [13]

In view of the above-mentioned opinions, the advantages of flipped class can be summarized as: a) learning of knowledge before class can help utilize the class time effectively, which prolongs students' learning time and promotes the effects of in-class teaching; b) discussion, question asking and answering, and demonstration of learning in class can help deepen students' understanding, internalization and application of knowledge; c) individualized learning can help enhance the positivity of students, who can control their own learning pace and decide whether to learn step by step or by leaps and bounds.

Disadvantages of flipped class: Related researches show that there are also some disadvantages of flipped class: a) there is no fundamental difference between the teaching videos produced by the teacher before class and the in-class teaching in a traditional class, both of which are teacher-centered and instruction-dominated, little attention is paid to the individual difference and learning habit of students; b) too much emphasis is laid on student-centeredness, and autonomous learning is advocated, which can-not guarantee the learning effects without teacher's guidance and interaction among students after class; c) since most teachers are not technicians, the quality of video production can-not be guaranteed and videos of low quality will hinder the instruction of knowledge.

Although no sound evidences have been found to prove that flipped class is certainly better than traditional class in the effect of learning, practices of flipped class, if properly carried out, can improve the learning effect of students.[14] The concept of flipped study, which emphasizes on the construction of knowledge, cultivation of ability and effect of learning, matches the needs for individualized learning in the era of big data.

3 Integration and reconstruction of micro-lesson, MOOCs and flipped class

3.1 Necessity of integration and reconstruction

Previous researches on micro-lesson, MOOCs and flipped class focus too much on their contrasts, but neglect their connections, which can be shown in the following aspects: a) in the discussion of flipped class, teacher-centeredness is simply contrasted to student-centeredness. However, the fact is that even in a teacher-centered class,

there is still difference in active receiving and passive receiving for students, while even in a student-centered learning process, there is still difference in being attentive or absent-minded; b) in the discussion of micro-lesson and MOOCs, teaching is often contrasted to learning. However, teaching and learning are originally the two sides of education, the purpose of teaching is to facilitate learning, and so is the tenet of MOOCs; c) traditional class is contrasted to flipped class, and most people hold a negative attitude towards traditional class teaching featuring teacher's instruction. However, the fact is that for some teaching contents, face-to-face instruction in class is more efficient for students to understand. Therefore, an objective and comprehensive attitude should be held towards the cons and pros of traditional class and flipped class; d) in the discussion of MOOCs, online learning is contrasted to face-to-face instruction, and attention is paid more on online teaching than on off-line interaction. However, off-line interaction can be conducted in the form of social media or face-to-face communication, and vice versa. Therefore, the integration of on and off line communication is the way of learning; e) in the implementation of flipped class, too much emphasis is laid on the difference between learning in class and out of class. However, due attention should also be paid on the circulation and mutual promotion of learning before, in and after class.

As was shown above, the current studies on micro-lesson, MOOCs and flipped class are quite fragmented, which need integration and reconstruction so as to facilitate English teaching reform and promote English learning effects.

3.2 Ways of integration and reconstruction

Integration and reconstruction of education technologies: The purpose of applying education technologies is to enhance the interaction between the teacher and students, not to replace the role of the teacher. In the digital era, it is a vital issue to improve the learning experience of students. Therefore, during the design of micro-lesson, application of MOOCs and implementation of flipped class, due attention should be paid to the learning experience of students, design of interactive questions and integration of on and off line communication between the teacher and students. In view of this, the in-depth learning field, which integrates MOOCs and flipped class, should be constructed so as to provide flipped class with efficient web learning platform, learning tools and resources. This attempt to integrate different education technologies and combine them with English teaching, which aims at in-depth, effective learning, can become a powerful drive to the English teaching reform.

Integration and reconstruction of teaching and learning: Flipped class insists on student-centeredness, which, however, if laid too much emphasis on, can marginalize the role of teacher, thus neglecting their positivity and creativity. It should be pointed out that the formal classroom teaching in the school is much different from the informal self-taught study, therefore, the effective classroom teaching, aiming at effective learning, should bring into full play the roles of both the teacher and students, i.e. the teacher's role of guidance and instruction, students' role of positivity and initiative, so as to realize the mutual promotion of teaching and learning and the mutual development of the teacher and students.

At the practical level, the teacher, when designing the teaching activities, should aim to promote the effective learning of students, while students should learn to be responsible for their learning and try to develop the consciousness of life-long learning and ability of autonomous learning. Meanwhile, the teacher, as the guide of learning, should try to realize their sustainable professional development so as to guarantee the in-depth growth of teaching reform.

3.3 Suggestions for dynamic integration and reconstruction

Dynamic flipping: According to Bloom’s taxonomy, there are six levels of learning objectives to be achieved, which are, from the lowest to the highest, remembering, understanding, applying, analyzing, evaluating and creating. (Figure 1) Not all the classes are suitable for flipping, comparatively speaking, those courses enriched in materials to be remembered or understood are more suitable for flipping, while those philosophical or research-based courses are not. Therefore, whether or not to flip the class, or how and to what degree to flip the class, should take into consideration the teaching contents, teaching goals, and students’ cognitive levels.

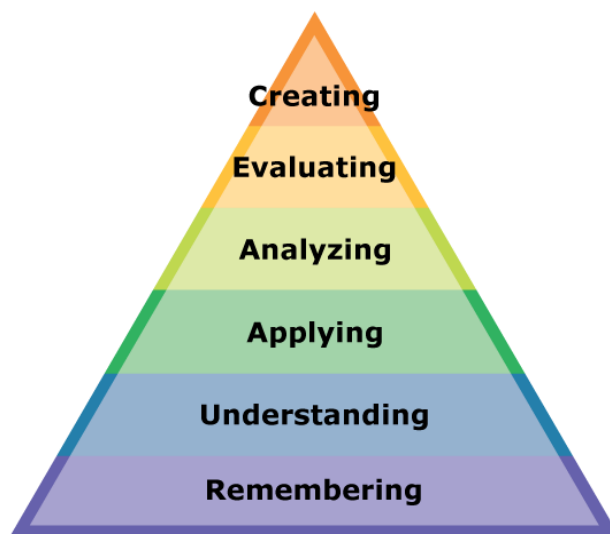


Fig. 1. Bloom’s Revised Taxonomy

Dynamic integration and reconstruction: Sams & Bergmann pointed out that the value of teaching videos applied in flipped class, is that the lower levels of cognitive work (remembering and understanding) are finished before class, while the class time is reserved to deal with the cognitive work of higher levels, i.e. application, analysis, evaluation and creation.[15] Besides, it should be noted that when there are always some students who don’t like traditional teaching, not all students are suitable for video learning. Therefore, it is quite necessary to provide students with diversified choices instead of the same tasks. In a flipped class, whether or not to use micro-

lesson or the platform of MOOCs, and to what degree micro-lesson, MOOCs and flipped class should be integrated, shall refer to the current level and cognitive feature of students.

Dynamic evaluation of the effect of integration and reconstruction: Multi-channels are needed for a more objective evaluation of the effect of integration and reconstruction of micro-lesson, MOOCs and flipped class. Teaching should not only focus on the testing scores of students, but also pay due attention to their learning interest, critical thinking and ability of autonomous and collaborative learning. Besides the regular testing, evaluation should also be carried out in forms of questionnaire, classroom observation and reflective diaries recorded by the teacher and students. Only in this way can a more thorough and objective conclusion be made.

4 China's English teaching reform in the era of big data

4.1 From micro-lesson and MOOCs to flipped class

Micro-lesson, MOOCs and flipped class are all teaching concepts of modern education introduced from abroad, which could be easily applied to China's English teaching and bring precious opportunities to its English teaching reform.

From the perspective of educational ecology, micro-lesson is the teaching content; MOOCs provide the teaching platform; flipped class is the teaching mode, which represents three different facets of teaching. With micro-lesson as the courseware and MOOCs as the teaching platform, the teacher can carry out the practice of flipped class to improve the teaching effects. Concretely speaking, micro-lesson can break the spatio-temporal limits in traditional class and exert to the full extend the advantages of hybrid learning which blends face-to-face instruction with on and off line interaction. Through the integration of micro-lesson, MOOCs and flipped class, the fragmented knowledge acquired by students can be integrated and reconstructed, so as to improve the efficiency of English teaching and students' ability of language application.

At the practical level, Chinese universities can establish the school-based English learning MOOCs with micro-lesson as a carrier, and develop the flipped learning based on SPOC (Small Private Online Course), which, by the integration and reconstruction of micro-lesson, MOOCs and flipped class, will launch a thorough reform of the present English teaching in China, so as to realize the matching of English teaching and social demands.

4.2 To create production-oriented authentic environment of English learning

In 2015, Professor Wen Qiu-fang, based on output-driven and input-enabled hypothesis, proposes the production-oriented approach,[16] which emphasizes that output is both the drive and purpose of language learning, while input is the means to help accomplish the output tasks. Language learning, unlike technical training, requires a lot of drills in authentic context to convert passive language knowledge into

internalized skills, which can be further converted into ability of language application. The production-oriented environment of English learning, by providing students with more chances to practice, will help improve their positivity in learning to achieve much better learning effects.

Micro-lesson, as the teaching material, provides English teaching with teaching contents of vivid language context. MOOCs, as online courses, provide English learners with authentic language materials and establish a platform for verbal communication under authentic language context.[17] In the era of big data, English learners from different universities or even countries can communicate and interact with each other through this platform. Flipped class, as a new teaching mode, can use the resources provided by micro-lesson and the international teaching platform provided by MOOCs, to effectively integrate face-to-face communication with web-based communication, which will realize the matching of English teaching and language application.

4.3 To construct individualized mode of English learning

In the era of big data, students become the center of learning, who are no more the same-type products fabricated from the same mould and enjoy the infinite space for self development. Therefore, the education in the era of big data should respect the individual difference of students and help them to realize the individualized development. Micro-lesson, MOOCs and flipped class all advocate the individualized learning and encourage them to interact with the teacher to accomplish the construction of knowledge.

Ackoff & Greenberg proposed that autonomous learning, driven by the inner motive of learners, is the most efficient way of learning, while the best inner motive of learning is the innate curiosity of learners. The micro-lesson materials, presented in a multi-modal way of words, graphics and audio-visual scripts, could better arouse the curiosity of learners, who can adjust their own learning pace and adopt their own learning strategies. Before class, students conduct autonomous learning and find questions; in class, they demonstrate their learning and complete the construction of knowledge with the help from the teacher; after class, they convert the internalized knowledge into ability through further learning and practice. In this way, students can not only improve their ability of finding and solving problems in learning, but also cultivate their consciousness and ability of life-long learning.

5 Conclusion

In view of the fragmented studies on micro-lesson, MOOCs and flipped class at present, this paper integrates and reconstructs the relations among them, which, related to the current situation of China's English teaching in the era of big data, tries to provide a new perspective for its English teaching reform. Towards such novel things as micro-lesson, MOOCs and flipped class, it would be not appropriate to hold an attitude of either total affirmation or total denial. To test its validity, it requires a deep

exploration of the hidden teaching concepts in the three elements, and more empirical researches or action researches in teaching to be carried out by experts and scholars from different fields. It can be concluded that only by the integration and reconstruction of the three elements, can they be seamlessly applied to English teaching and push forward the current English teaching reform in China.

6 Acknowledgment

This work is supported in part by the Philosophy and Social Science Planning Project of Anhui Province under grant AHSKY2016D29 in 2016, the Teaching Reform Project of Anhui Educational Commission under grant 2014zy039 in 2014 and the Teaching Research Projects of Anhui Polytechnic University under grant 2017jyxm10 and 2017jyxm47 in 2017.

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Article submitted 23 July 2017. Published as resubmitted by the authors 17 September 2017.