

# Design and Making of Micro lectures in Chinese EGP Flipped Classroom: Theory and Practice

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**Abstract:** *The Flipped classroom model was introduced to China from western countries around 2012. With its introduction into Chinese educational realm, the theoretical and practical researches into the design and making of micro lectures have been the focus of attention. The paper firstly elaborates its theoretical foundation from the perspective of concept, structure, and application. And depending on the theoretical support, the paper continues to carry out the practical research into the design and making of qualified and pragmatic micro lecture which discusses the basic principles of the procedures of making micro lecture, and provides the process and techniques for recording micro lecture. The intention of this paper is to present a tiny valuable part of micro lecture in order to stimulate more and more experts and first-line teachers to explore it deeply and extensively.*

**Keywords:** *FCM, micro lecture, concept, structure, application, process, principle, technique*

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## I. Introduction

The New Media Consortium issued the 11<sup>th</sup> annual report Horizon Report of New Media Consortium (higher education version of 2014) predicting that there will be the most influencing information technology in the global educational field in the next five years which involves the mega trend to accelerate the application of higher education technology, the remarkable challenge to hinder the application of new technology, the significant development of educational technology in college, and the horizon project of New Media Consortium in 2014. [1] In the report, flipped classroom model (abbreviated to FCM) was listed as the primary technological development to be issued in college educational technology. In view of this circumstance, we can see that FCM has become the hot issue in the international higher education field.

According to Lu Yu [2], FCM is composed of four stages including teaching materials selecting and micro lectures recording stage, self-study stage, classroom activity stage, and feedback & evaluation stage. In this teaching process of flipped classroom, teaching video is the major carrier of knowledge impartment, and whether the students fulfilling the task of micro lectures' learning determines the quality of knowledge impartment and plays the learning role in internalizing the subsequent knowledge. The article focuses on the design and making of micro lectures from different aspects in order to present a clear roadmap and example to make high-quality micro lectures to guarantee the successful launching of FCM.

## II. Theoretical Analysis of Micro Lectures in Concept, Structure and Application

### 2.1 The conceptual analysis of micro lectures

As to the concept of micro lecture, different experts provide different answers from different perspectives and applied circumstances, which always puzzles us in these three concepts: micro video, micro curriculum, and micro lecture. In fact, the understanding of micro lecture will influence its design and practice to a great extent. As a result, it's of great necessity to probe into the concept and connotation of micro lecture. According to Wikipedia, micro lecture refers to actual in formatted for online and mobile learning using a constructivist approach. More specifically, these are approximately 60 second presentations with a specific structure. They are not just brief (one minute) presentations, they are combined with specific activities designed to promote the epistemic engagement [3] of the learner.

Chinese scholars define micro lectures mainly from such perspectives as lesson, course, and teaching resource. Although they have different expressions, there are many common grounds in its connotation including unitary teaching purpose, briefer content, short time, better structure, and micro video as teaching carrier. For example, Zhang Yichun [4] defines that micro lecture refers to elaborate information teaching design with the purpose to make self-study get the best result; it is a short but complete teaching activities revolving around one knowledge point or teaching link in the form of streaming media. Zheng Xiaojun [5] defines that micro lecture is a contextual, interesting, and visualized digital learning package to support various learning patterns, such as flipped learning, hybrid learning, mobile learning, and fragmented learning, which takes short but well-designed micro teaching video as the major carrier, aiming at some knowledge point or one teaching link. After comparative analysis among these definitions, it is concluded that the micro lecture is essentially the new type of course resource to support teacher's teaching and students' learning activities. Micro lectures and

other matching course elements of micro purpose, micro teaching plan, micro teaching material, and micro exercise constitute the micro course which belongs to the scope of curriculum methodology. When the learners commence to learn through watching micro lectures, they begin to carry out indirect interaction with teachers through the medium of micro lecture, and meanwhile carry out direct interaction through online discussion, and face-to-face instruction. The meaningful teaching activities will be developed consequently.

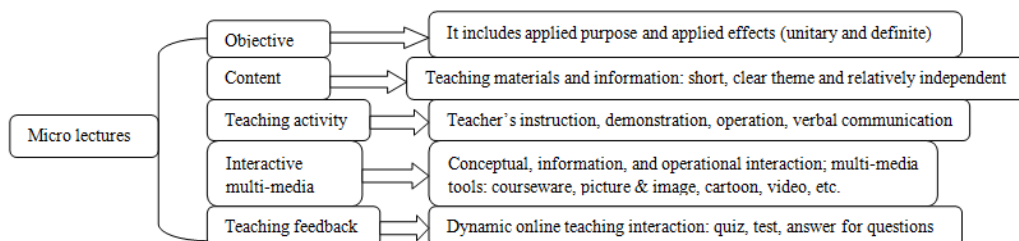
**2.2 The structural analysis of micro lectures**

The course resource is the foundation and safeguard to realize course object and implement the course, which is the vital part of educational resources. Educational resources refer to digital educational resources including media material, test questions, test papers, courseware, teaching cases, references, online courses, answers for normal questions, and catalog index of educational resources. Micro lectures regarded as a new type of digital educational resources are different from other resources, such as media material, courseware, and online course. Table 1 presents their differences in technological forms, applicable domains, application objects, and design concepts.

	Media material	Courseware	Online course	Micro lecture
Technological forms	Documents, graphs/images, audio/video material, cartoon	PPT, cartoon, executable files	The presented learning contents in the form of rich media and supporting environment of teaching and learning	Video presentations
Applicable domains	Preparation for the class	Classroom teaching activity	Self-study	Self-study & Classroom teaching
Application object	Instructors	Instructors	Learners	Learners & instructors
Design concept		Instructor-centered concept	Learner-centered concept	Learner-centered concept

**Table 1:** The comparative study of different teaching resources

Different researchers present different recognitions for the components of micro lectures from various perspectives. From the perspective of the whole process of teaching activity and the applied eco-environment of teaching resources, Hu pointed out that micro lectures include such components as micro teaching videos, micro teaching plans, micro courseware, micro exercises, micro reflections, micro comments, and micro feedbacks. [6] Professor Liu held that micro lectures should possess the necessary course elements, such as teaching objectives, teaching contents, teaching activities, teaching resources, teaching evaluations, and those built-in learning support (such as the learning tools of learning notebooks and endorsements). [7] The Institute of Education Sciences of Singapore put forward that micro lectures probably include teaching activities, simulation, games, problem-solving activities, mother tongue materials, and instructors’ materials for demonstration; it also advanced that four elements constitute micro lectures; they are objectives, contents, activities, tools, and templates. [8] According to the above illustrations, we can conclude that there are generally five elements in micro lectures; they are objective, content, teaching activity, interactive multi-media, and teaching feedback. Fig. 1 demonstrates the concrete contents of these elements.



**Fig. 1:** Five elements of micro lectures and their connotations

**2.3 The applied analysis of micro lectures**

At present, micro lectures are always used in flipped classroom, electronic schoolbag, and hybrid learning, which can meet the students’ requirements for individualized learning. Khan Academy and TEDed have presented us a great amount of micro lectures which reflected the similar teaching applied pattern in which learners watched micro lectures independently, finished online exercises, and put forward questions or joined in topic discussions. In this teaching pattern, micro lectures played the teacher’s role of the traditional class, but the teacher came to the backstage to answer learners’ questions. According to the survey of the application of micro lectures, we conclude that the applied objectives can be divided into three levels including learning of the new knowledge, the solution of the difficult points, and consolidation and expansion. Of course, organizing patters of

applied micro lectures can vary depending on various teaching objectives, which mainly cover the following three patterns: independent learning, cooperative learning, and collective learning. Table 2 describes these learning patterns clearly in three aspects.

	What does it mean?	When to use it?	What's the function?
Independent learning	Learners learn micro lectures independently with their own learning pace, finishing pre-designed assignments, leading to problems or solving puzzles	Pre-class, In the middle of the class, After the class	To play the teacher's role of the traditional class and to learn the new knowledge
Cooperative learning	It is applied to the group cooperative learning, constructing the problem situation for group discussion and exploration	In the middle of the class	To discuss the problems and to learn the knowledge deeply
Collective learning	It is applied to those unfinished teaching contents in class, or those repeatedly demonstrated contents in order to replace teachers' live lectures or demonstrations	After the class	To consolidate the new knowledge and to expand it.

**Fig. 2:** Three learning patterns of micro lectures in three aspects

### **III. Practical Design and Making of Micro Lectures: Process, Principles & Techniques**

#### **3.1 The procedures of making micro lectures: the basic principles**

In general, the making process of micro lectures is as follows: selecting the topic, writing teaching plan, making courseware, teaching practice and recording, post production, and teaching evaluation and reflection. The topic-selecting standard: the selection of topic of micro lectures is the vital link, and a good topic can be beneficial to the latter section of instruction and recording. The topic, first of all, should be the priority and difficulty of the text or unit. Each micro lecture is suitable for explaining one language point, and the selection of this point is relevant to the design of the knowledge structure. The original intention of making micro lecture is to illustrate the main and difficult points of the new knowledge clearly and instructively. In addition, the selection of language points should be expressed by multi-media appropriately. Micro lectures, as the kind of media, are fit for using multi-media with plentiful pictures, images, cartoons, audios or videos. There are some well-chosen topics for us to use for reference: writing an invitation letter, superstitions: A window on Chinese Culture, metaphor, American Tipping Custom, the art of gift-giving in different cultures, negation, narrative skills: writing with details, how to pick the ideal topic sentence. According to the above examples, we can see that a concrete grammatical item or language skill can be selected as a topic, and the specific cultural custom and phenomenon are also good topics to discuss.

Teaching design standard: a qualified micro lecture should be designed in orderly way with such characteristics as short time, micro document, and essential content. Micro lectures are targeted at suitable audiences. Before making teaching design, the producer has to consider the qualities, the levels, and the features of his audiences, and, according to their general level and common demands, the producer fulfills the whole teaching design. Besides, the excellent micro lecture should be progressive without jerky development and shift. As to the college students, more nurturing in the context and situation is necessary and appropriate, and those situational lead-in and philosophical reflection can be filled in each designing process. Problem instruction is the priority. Pause is another point to be added; the proper pause is fairly necessary for the college students to realize profound self-reflection after knowledge lead-in.

#### **3.2 The preparations for recording micro lectures: process and techniques**

There are many preparations for instructors to learn and understand on recording micro lectures. To understand the function of micro lectures; that is to solve the puzzles but not to impart the knowledge, to select those key and hot points as the topic to discuss, to define your audiences, to divide the language point into several tiny points to teach in a logic way, to make a summary form for every tiny language point, to make perfect and matching PPT, to be familiar with software operation, and to start record and modify micro lecture video.

Design techniques of making PPT: as to the content design, it is required to select the core content and neglect the minor content. The content should be instructive with some suspense and assignments for reflection. As to the layout, it's best to put the first PPT as the cover of the courseware with the topic, the author's name and college, the language point of teaching material, and simple but elegant background. With regard to the middle part, those tiny language points are put on the upper part with the core content being put in the middle and teacher's image put on the lower right corner. For the last PPT, acknowledgement, topic and other polite languages are filled in it without teacher's image. Fig. 3 and Fig.4 are good examples of college English PPT made by an excellent English teacher Li Xiaoli to reflect the principle and techniques to make high-leveled PPT.

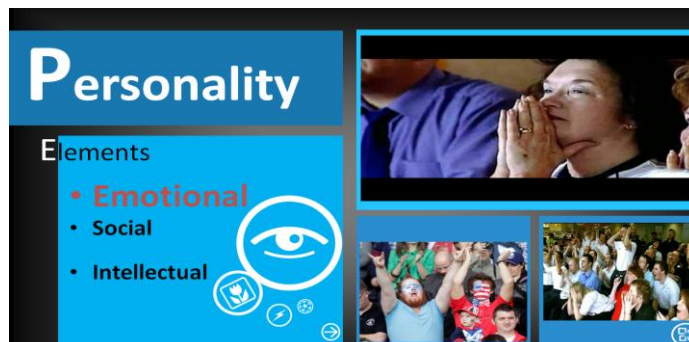


Fig. 3: The cover of Personality PPT made by instructor Li Xiaoli

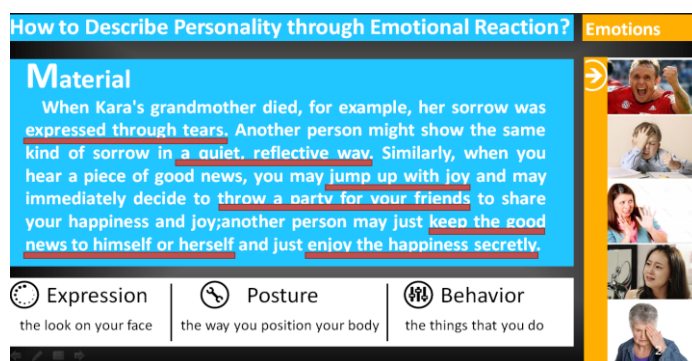


Fig.4: The middle part of Personality PPT made by instructor Li Xiaoli

Recording and modifying techniques: at present, there are a couple of popular ways to record and make micro lectures. The external video camera can be used to record the whole teaching activity including instructor, PPT and students. The screen recording software with PPT can be used to record the process of micro lecture. The video recording software, Camtasia Studio, is turned on, and the instructor put on microphone adjusting PPT interface. While the instructor is explaining, he can apply various multi-media or teaching materials to make the whole teaching process enjoyable and instructive. After recording, it's necessary to modify and beautify the videos. The professional micro lecture software represented by Micro Stage is the most modern one which utilizes the making system of micro lecture to explain the whole teaching process. Fig. 5 and Fig. 6 are practical examples to present the above recording method.



Fig.5: The micro lecture case recorded by external video camera (the author as the instructor)

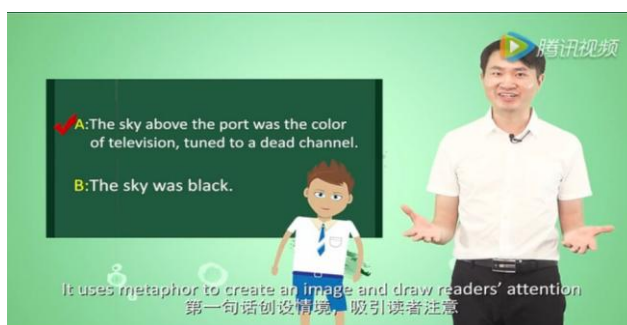


Fig.6: The screen recording example selected from Tencent video

#### **IV. Conclusion**

After over one decade's development, FCM has become the most prevailing teaching method home and abroad. As the indispensable component of FCM, micro lecture turns to be the focus and hot issue for educators to study and discuss. As to micro lecture, what the paper discusses here is only the tip of the iceberg. Factually, there are abundant theoretical and technological resources for first-line teachers to reflect and apply on their way to improve their teaching process and effects. As long as the researchers including experts and teachers persist in exploring initiative and effective teaching concept and practice, it is fully believed that there must be a more prosperous academic prospect for the improvement of FCM and micro lecture.

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