A MOOC-based Study on Micro-lecture English Teaching in Universities

Feng Shi [1, a], Haoda Feng [2, b]

[1]School of International Studies, University of Science and Technology Liaoning, Liaoning, 114051, China

[2]International Exchange Office, Bohai University, Jinzhou, 121013, China

[a]alanstone7772003@126.com, [b]leblanc.feng@yahoo.co.nz

Abstract

As a new type of curriculum resources, micro-lecture features conciseness and preciseness in curriculum design, thus breathing new life into the traditional pedagogies used in universities. Based on the MOOC concept and Cognitive Theory in Multimedia Learning, micro-lecture English teaching can enable university students and lecturers to share resources and communicate via the management system of micro-lecture videos, and can enhance the efficiency and effectiveness of English teaching in universities.

Keywords

micro-lecture; MOOC; curriculum resources.

1. Introduction

MOOC is the acronym of "massive open online course", and has gained increasing popularity in top-notch universities worldwide since the 'debut' of Coursera and edX in 2012. The essentials of MOOC lie in course design, in which in-class hours and weeks are shortened to a great extent, and lectures are filmed to short videos clips and are prepared well before they are presented to students. Course-related materials can be downloaded for free, and homework can be embedded in videos clips and can be checked by students themselves or through peer review. There is also a forum or study community for students to join for further discussion in regard to the course materials. In this sense, the curriculum design of English teaching in universities functions as not only a server resource publication and resource downloading, but also a pedagogic platform in which students and lecturers can mutually share information, exchange opinions and ideas, as well as discuss hard topics.

The notion of "micro-lecture" was first pointed out by David M. Penrose, an independent instructional designer and e-Learning consultant, and refers to actual instructional content that is formatted for online and mobile learning using a constructivist approach (Shea, 2009). Penrose has articulated the process for creating micro-lectures and has combined these lectures with specific activities designed to promote the epistemic engagement of the learner (Shea, 2009). The objective of micro-lectures is to compress hours of in-class teaching videos into minutes of video clips which nevertheless include all the key points in the teaching materials. In such a way, students can make the best of what they have learnt through pre-designed curriculum and can master all the key points enclosed through every phase of teaching. The interest surrounding the use of micro-lecture has continued to grow and the popularity of the micro-lectures has been the focus of a large variety of academic studies relating to curriculum design. With respect to this, micro-lecture for English teaching in universities has salient advantages when compared with traditional pedagogies, and would definitely benefit second language (L2) learners whose mother language is not English.

2. The importance of Cognitive Theory in Multimedia Learning to university students

In cognitive psychology, cognitive load refers to the total amount of mental effort being used in the working memory (Sweller, 1988). Cognitive load theory was developed out of the study

of problem solving by Sweller in the late 1980s, who argued that instructional design can be used to reduce cognitive load in learners (1988). Extraneous cognitive load refers to the way information or tasks are presented to a learner, and germane cognitive load refers to the work put into creating a permanent store of knowledge, or a schema (Sweller, 1988). In this respect, knowledge is best stored in the format of schema to increase cognitive load because cognitive load is limited for human beings. For language learning, the accordance between language information and image information may create a link between visual and verbal characteristics, which can improve language learners' acquisition.

Mayer (2001) pointed out Cognitive Theory in Multimedia Learning, and believes that verbal messages might not be the primary means of explaining ideas to learners although verbal learning offers a powerful tool for humans. He introduced an alternative to purely verbal presentations, that is, the use of multimedia presentations in which people learn from both words and pictures (2001). Mayer's theory can be best summarised as follows:
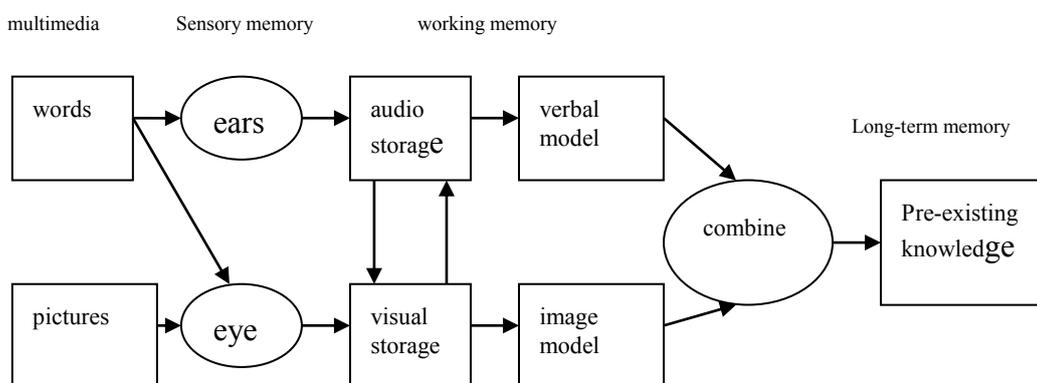

Figure 1 The model of Cognitive Theory in Multimedia Learning

This model indicates that there are two independent information operation channels in human brains, specifically the audio channel and the visual channel, and therefore the language acquisition system can be seen as a 'dual channel' system. Knowledge obtained through these two channels will be combined in human brains, and the operation of such knowledge will construct a systematic structure in which language learners can reduce cognitive load and effectively enhance the proficiency of language learning. For university students, video is the primary tool to obtain knowledge from micro-lectures in which the functions of the audio and visual channels are reinforced. More importantly, when students are taking the advantage of these two channels, they are constructing a kind of situation in which they can associate what they hear or see with what is actually happening. This is also the core of situated learning, with which students can reach higher goals in language learning.

3. Constructing a model of micro‑lecture

Based on the MOOC concept and Cognitive Theory in Multimedia Learning, we have attempted to construct a pedagogic model of micro-lecture that can be used for English teaching in L2 environment in universities. This model mainly includes four phases, specifically the design and production of video clips for micro-lectures, students' preview of video clips, in-class presentations and communications, as well as after-class online communication between lecturers and students. These four phases can be specified as follows:

3.1 Design and production of video clips for micro‑lectures

When designing the courseware (video clips) for micro-lectures, the lecturers should specify the contents and clarify the hard points. Lecturers should include as many relevant language points as they can, but they also need to keep their video clips to a minimum length, for instance, 10 minutes. They should also take account of the quality of these video clips, and make sure the contents presented come to the point straight away and are relevant to each other.

Lecturers need to use appropriate electronic tools for filming and making videos. First of all, high definition video cameras are necessary as they can provide clear pictures on screen and therefore students can create virtual situations more efficiently in their brains. Secondly, lecturers can also use more portable tools such as smart phones or pads to capture ephemeral moments so as to give students more vivid contents they would need. Thirdly, the most common method is to use screenshot software tools such as Camtasia Studio in that lecturers can keep cyber videos or films to a high standard, and keep sound tracks undamaged. Lecturers can also use notepads because these pads are suitable for the situations calling for a large amount of manual operations.

In addition, lecturers may also search and download some excellent video clips from authoritative websites, such as MOOC, and embed them into the courseware they would use in class. This method is easier for students to access actual communication between native speakers, and try their best to follow what they see and hear. It is particularly useful when students attempt to correct their pronunciations and accents, or try to follow a native-like way of making English sentences.
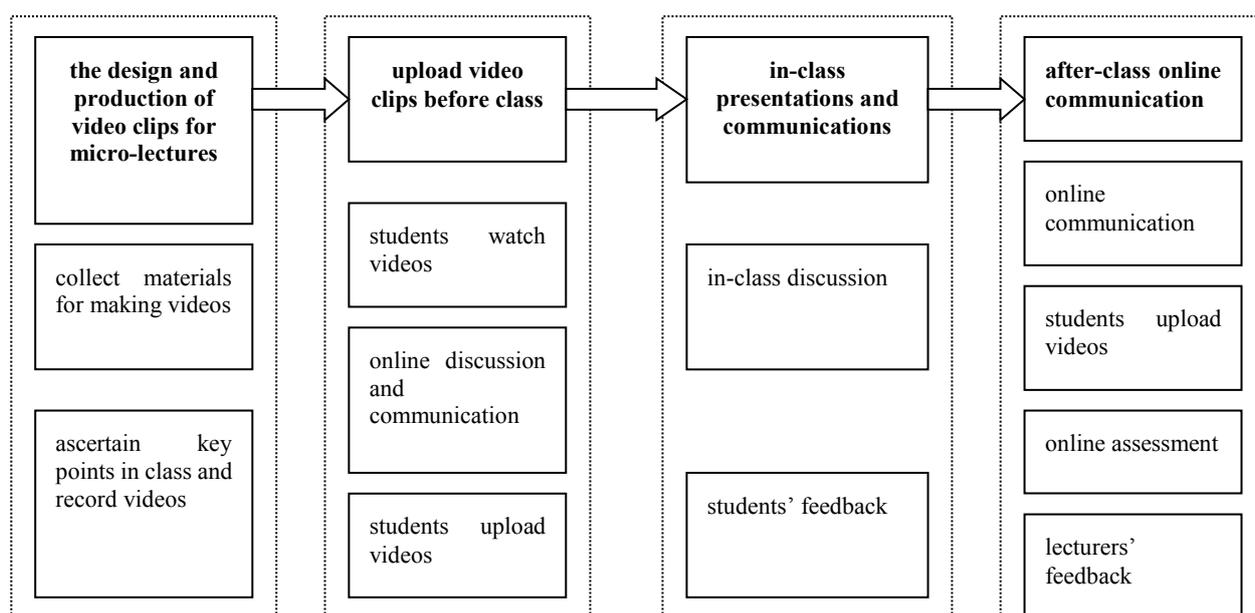

Figure 2 The pedagogic model of micro-lectures regarding English teaching

3.2 Upload video clips before class

After finishing making the video clips, lecturers may take advantage of the MOOC concept and use the micro-lecture system as the assistive tool in class. They would need to upload micro-lecture course ware (video clips) to the server prior to class, and these video clips will be converted to some certain format by computer software to ensure that they can be played smoothly during the lecture. Then lecturers can add some words, phrases and even home works to explain to students what is happening in the video clips or indicate what students should do after class. This step is the very beginning of the micro-lecture. Students may log in the micro-lecture system via computer or mobile terminals such as smart phones and tablets, and watch what lecturers have uploaded onto the system. Students can also follow the video listening, reading and writing repeatedly till they think they have already achieved what lectures want them to do. If students meet any difficulty they contact their teacher immediately online and they teachers can advise them what to do next step. Students can also post their opinions or ideas via voice or video editing software tools so that they can communicate with their teachers. Generally speaking, the whole process is much like Facebook chat.

3.3 In-class teaching

The in-class teaching process does not follow the traditional method. Rather, lecturers, based on the knowledge shown in the video clips, employ a large variety of relevant resources for students to refer to and students sum up the hard points they meet before class. Then lecturers and students will work together to sort out the hard problems and provide effective solutions to them. After that, lecturers

will group students and leave them time to discuss anything left unclear to them, such as pronunciation, grammar and sentence-making issues in the English language. This would largely help students take the language points they see into their innate knowledge system and restructure their cognitive framework regarding the English language.

3.4 After-class reflection and feedback

Reflection is an important way for students to enhance their L2 competency based on their full understandings about the supplement materials given in class and effective communication offline. Micro-lecture in universities provides students an important media to reflect what they have seen or heard, and realise valid communication between lecturers and students. Students may follow up and post their opinions and ideas online for further discussion. Basically, this step will motivate students to explore what they have touched in class. In addition, students may also upload to the micro-lecture system relevant videos they found online, and share their ideas if they want to go deeper regarding specific topics. This step can be examined by lecturers who can also give students feedback about the contents of these videos. The social network communication has become a main stream at present, in which students can upload their achievements and reviews of specific topics to some distinguished media such as Youtube and get more feedbacks from native speakers of English.

4. Conclusions

For L2 learners, the traditional language teaching method has gradually lost its charms because language learning differs from other disciplines and is in need of situated imagination to build up learners' cognitive structure in their brains. In this sense, micro-lecture would arouse language learners' interests to a great extent because it shows learners vivid pictures and sound tracks for them to follow and can provide a robust platform to communicate with their teachers and peers.

This paper has shown several advantages of micro-lecture: first of all, it can provide 'larger space' for students to explore, in which lecturers focus mainly on key language points and students can be motivated to extend these topics. Secondly, students can have more opportunities to communicate with their teachers and therefore they can enhance their ability of using their L2 in verbal or written forms. This would help them to practise using the English language and regard it as a tool for daily communication. Thirdly, micro-lecture can make the key language points prominent and omit a lot of redundant information, and students do not have to take everything into consideration when they are not handling well these key points. Last but not least, the so-called in-class teaching or training has become part of students' life, and they can access the micro-lecture system anytime anywhere so that they are learning from life rather a kind of traditional 'stimulated' environment. In this respect, English learn has become fun for students and they are having fun while learning English.

Acknowledgements

References

[1] Shea, P., Bidjerano, T. (2009). Community of inquiry as a theoretical framework to foster "epistemic engagement" and "cognitive presence" in online education. Computers and Education 52 (3): 543-553.
[2] Sweller, J (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science 12* (2): 257-285.
[3] Mayer, R. (2001). *Multi-media learning*. London, UK: Cambridge University Press.