Education Quarterly Reviews

The Asian Institute of Research *Education Quarterly Reviews* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of education, linguistics, literature, educational theory, research, and methodologies, curriculum, elementary and secondary education, higher education, foreign language education, teaching and learning, teacher education, education of special groups, and other fields of study related to education. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Education Quarterly Reviews* aims to facilitate scholarly work on recent theoretical and practical aspects of Education.

Teaching Application of Micro-lesson and Flipped Classroom

Fan Zhang[1], Shuxiong Feng[2]

[1] Central South University of Forestry & Technology, Hunan, China. Ph.D. student in the Literacy Program at University of Delaware. Email: grace195415@163.com
[2] University of Delaware, DE, USA

Abstract
The paper introduced the application significance of micro-lesson and flipped classroom teaching model. It discussed the application value and analyzed the problems of the flipped classroom teaching model. Implications of practices of the teaching model are also discussed.

Keywords: Application Significance, Micro-Lesson, Flipped Classroom, Application Value, Problem Analysis

Introduction

As a "new online video course," with the popularization of mobile wireless network, micro-lesson/flipped classroom, as one of the major carriers of mobile learning for contemporary college students, can not only adequately meet the needs of students' mobile learning, but also promote the reform of teaching modes (Zhang, 2017).

The central part of micro-lesson/flipped classroom is micro-lesson video, and the video is used for learners to learn at their own convenient time and place by using the corresponding video terminal. The software platform system of micro course/flipped classroom must be built to realize the teaching purpose of micro course/flipped classroom. After the design of the micro-lesson system and the production of micro-lesson videos, teaching application should be carried out to reflect the practical significance of micro-lesson teaching and improve the teaching quality.

Two basic conditions should be prepared for the development of micro-lesson teaching. One is to build (or purchase, lease, etc.) micro-lesson teaching system platform. The second is to study and design the integrated classroom teaching plan suitable for this course and this specialty, to efficiently organize the implementation of micro-lesson teaching. To obtain expected educational and teaching effects, without the support of these two basic conditions, micro-lesson teaching is just like a castle in the air, which is challenging to carry out effectively and for a long time.

Generally speaking, the construction of micro-lesson teaching system platform does not need every teacher to participate, but it is necessary to master the functions and methods of the platform, to organize and carry out micro-lesson teaching. However, flipped classroom teaching plan design and writing is a fundamental skill that

every teacher must master, which is related to the effectiveness and quality of micro-lesson teaching implementation.

Application Significance of Micro-lesson and Flipped Classroom Teaching Model

1. Promoting the development of mobile learning

With the popularity of wireless networks and mobile devices, using new media means a lot in class teaching. The study of mobile learning draws the attention of relevant experts and scholars, and the learning resources based on the new mobile device is relatively scarce and hard to spread deep for multichannel learning. Thus it is inevitable for many students to use mobile "entertainment." With the large-scale construction of micro-lesson resources and the strengthening publicity and full application, more students will transfer from mobile "entertainment" to mobile learning. The most prominent feature of mobile learning is fragmented learning, while micro-lesson resources that are short and concise. Mobile learning can be said to be a seamless connection, which makes students' curriculum study could break the boundary of time and space, and could better promote college students to develop the habit of lifelong learning.

2. Promoting the reform of teaching models

In recent years, it has been advocated "teacher-directed and student-centered" in the field of education. The application of microteaching mode reflects the students' main status. Students actively depend on the internet to download resources, select learning materials, grasp the learning process based on the knowledge they have mastered. According to the online assessment and self-assessment, the students' leading status will be embodied. At the same time, especially in the after-class evaluation, teachers also play their due guiding role, which conforms to the current trend of teaching model reform.

3. Promoting the professional development of teachers

As to micro-lesson teaching, the time is short, but "Sparrow is small, but has all the internal organs." All the teaching links from lesson preparation to teaching assessment should be paid attention to. Even there will be more factors to consider in the lessons. For example, how a knowledge point will be illustrated clearly in a relatively short period to attract the attention of the students, which puts forward higher demands on teachers. Therefore, carrying out micro-lesson activities is not only a demonstration of teachers' professional teaching ability but also an expression of teachers' personal charm. Teachers should step out of the classroom and onto the "screen" to reflect the characteristics of both technology and art, to continually improve teachers' teaching and information technology abilities.

4. Meeting the requirements of the times

With the popularity of wireless mobile network and people's life rhythm speeding up, a micro-lesson can help people learn knowledge, understand a formula, master a principle, and so on in a short period. Micro-lesson is not only a way to make modern people happy, but it is also one of the most convenient modes of learning. With the establishment of micro-lesson platforms and resources, it will bring convenience to more people's learning, promote the construction of learning society, learning organization, and learning family. With the development of information technology and the deepening of people's understanding of micro-lesson, micro-lesson resources will become a new learning carrier and promote classroom teaching. Besides, mobile communication equipment will play an essential role in mobile learning.

(5) Meeting learners' expectations to the maximum extent

Due to the gap between self-study ability and the differences of career planning among classroom students, the platform function is sometimes difficult to meet learners' needs and expectations, making the learners are not

interested in the learning platform. Therefore, the practical value of the platform must be developed based on fully meeting the needs of learners.

(6) Making good use of cloud computing, big data and other modern technologies to realize the high application value of the platform at low cost

It is necessary to make full use of cloud computing, big data, and other modern information technologies according to the characteristics of an educational management system in different types of colleges and universities. In addition, it is also important to design platforms from the perspective of sustainable development, to achieve the goal of low cost and high application value. Based on micro-lesson teaching, the large-scale advantages of MOOCs are realized utilizing modular expansion, so as to meet the needs of various colleges and universities with low cost and different scale of application, and maximize the cost-effective and practical value of the platform.

Application Value and Problem Analysis

1. Application value of the teaching model

After teachers' applications in primary and secondary schools and universities in China in recent years, it is not only proved that the combination of micro-curriculum and flipped classroom has the above application significance, but also has the value of extensive promotion and application, which is manifested in the following five aspects.

a. It provides an effective platform for implementing effective mixed teaching mode

Flipped classroom provides an effective comprehensive teaching platform for teaching reform and enables teachers to apply modern information technology into different course content and characteristics. Therefore in different types of colleges, course features, learners' characteristics, and teaching objectives are required to realize the diversification of teaching modes. Flexible activation of teaching methods and enhancement of teachers' adopting new teaching mode are required to increase the confidence of teaching idea.

b. It can improve learners' innovative consciousness and ability

According to Zhang's (2017) research, after flipped classroom teaching, learners' autonomous learning ability is strengthened, their expression ability is improved. Now the insight of the problem has been raised at the same time with a sense of bold innovation. At present, there are still some problems in training learners to solve problems and innovate, which cannot adequately meet the needs of society for talents. Flipped classroom teaching is a long-term productive and subtle training mode in cultivating learners' innovative ability.

c. It can provide enough time and energy for practical teaching

Usually, in the process of practical learning, teachers have to find time for supplementary theoretical learning, which sometimes leads to insufficient practical time. After adopting flipped classroom teaching, all theoretical learning is conducted through pre-class self-study. Moreover, practical learning is carried out, with sufficient time and satisfactory theoretical preparation, so as to improve learners' professional ability and skills significantly.

d. It can make up for the defects of the practical teaching conditions

Due to the unbalancing economic development, no primary and secondary schools and institutions of higher learning have insufficient practical teaching conditions to some extent. The situation seriously affects teaching practice. After the combination of micro course and flipped classroom is adopted, some micro-lesson videos and

teaching resources of practical teaching can be shared within a specific range, and learners can learn by themselves before class through micro-lesson videos, classroom discussions, and interactions.

e. Flipped classroom teaching is a teaching reform project with low investment and quick results

The teaching mode combining micro-curriculum and flipped classroom requires certain investment in equipment, software, and teacher training. If teachers are the leading force, universities are the unit for unified layout and implementation, it is actually a cost-effective teaching reform project. Now, primary and secondary schools, colleges and universities have carried out the basic hardware conditions. Also, most of them have the terminal equipment of video learning (computer, mobile phone, etc.). The impact of learners has been dissolved in full, make its turn to micro course learning, is a triple-win thing(quitting game addiction, autonomous learning, etc.).
    Through the combination with other counties and cities, excellent teachers from various disciplines are organized to form a teaching team of each discipline to develop micro-lessons. Universities organize excellent teachers of various departments and majors to develop micro-lessons. The actual investment for each course is meager, which has high-cost performance and social benefits.

2. The main problems existing in the current promotion and application and analysis

There are still some problems in the cognition and operation of the teaching mode combining micro-lesson and flipped classroom. The main manifestations are as follows:

a. The negative and vague understanding from some college leaders

Many of the reform projects in the field of education in China are strongly promoted by the Ministry of Education and education authorities, such as quality courses and quality resources sharing course construction, the national demonstration. The professional construction of higher vocational colleges, national backbone colleges, provincial schools, and the construction of individual schools are still in progress.

Almost all the national and provincial training projects have entered the comprehensive implementation stage with financial support from the state and provinces. At present, the departments of education of provinces and cities still don't have clear supportive policies and requirements. The understanding of the new teaching reform project is not in place or authorities hold a wait-and-see attitude. There is sometimes much resistance to promote the application of micro-curriculum.

b. Educators are satisfied with winning the prizes in the micro-lesson teaching competition, but they do not pay enough attention to the practical teaching application. Some college leaders and teachers are very interested in organizing teachers to win awards.

The schools attach great importance to their external reputation. However, the teachers are not paying enough attention to whether the competition really improves the teaching quality. The competition is only a means, not the ultimate goal of the competition. Students from different majors and regions have different thinking patterns, ways of presenting micro-lesson contents, and learning attitudes.

3. There is a lack of scientific evaluation system suitable for the combination of micro-lesson and flipped classroom

The teaching mode combining micro-lesson and flipped classroom has a good application prospect, which should have a matching and scientific teaching quality evaluation system. The traditional method is adopted to evaluate the teaching quality by taking learners' test scores, work level, and learning consciousness as indicators. The traditional evaluation methods are ignoring the influence of the teaching process on learners, only paying attention to learners' final exam scores. So, it is not comprehensive to evaluate the education and teach quality of

the teaching mode combining micro-lesson and flipped classroom teaching with the unified teaching evaluation method.

4. The adaptability and role transformation of teachers and students

At present, the domestic primary and secondary schools are basically using the exam-oriented education model. Primary and secondary school teachers and students take passing entrance examination and entering a higher school as the goal. College students see passing the final exam as the goal. Many college students can get good results in the final examination by working overtime within 1 ~ 2 weeks. Initially, in colleges and universities students are given a day on average. About 60% of the time used for self-study and independent research is provided with good self-study conditions (library, Internet, stadium, community activities, etc.). In order to develop learners' autonomous learning ability, communication ability, social ability, and innovation ability. However, the exam-oriented learning methods and habits developed by college students in middle school have not changed much, coupled with the loose teaching and management mode, resulting in that college students' professional ability has not improved much, and the knowledge learned after the examination is almost forgotten. There are some problems in this teaching mode, such as the difficulty of teachers and students in changing roles.

Suggestions and Major Solutions

It is necessary to popularize and apply the teaching mode combining micro-lesson effectively and flipped classroom and achieve the goal of improving the quality of education and teaching. It will be difficult to carry out this reform without addressing the existing problems of the soft environment and hardware facilities, especially the soft environment. Here are three levels of proposed solutions.

1. It is suggested to make relevant supportive policies

It is suggested that vocational colleges formulate relevant policies to support the promotion and application of the teaching mode combining micro-lesson and flipped classroom. To provide certain financial support for the joint development and production of general courses, micro-lesson video of professional basic courses, flipped classroom, teaching plan, and corresponding teaching resources and other materials have to be provided. In addition, support the design and production of specialized courses with large enrollment into micro-lesson video, flipped classroom reference teaching plans, and corresponding teaching resources. Take out the strength and depth of quality curriculum construction. Supports the promotion and application of the teaching mode combining micro-lesson and flipped classroom in various majors.

2.It is suggested to organize micro-lesson teaching competition with teaching effect evaluation

In terms of participating in the teaching competitions, each course design involves 20-60 micro-lessons, including a course of all micro lesson video, curriculum planning table or knowledge map, teaching plans, innovative subject, and student information). Micro course platform/site, the teaching procedure record information on the website), the course learning evaluation scheme, and overall assessment results (at least one class). The evaluation should be jointly participated by micro-lesson learners, experts, and peer teachers and non-peer teachers from other colleges and universities, each accounting for a certain weight.

3. Colleges and universities put this work into teaching routine work organization and implementation

Various colleges and universities have gradually incorporated the teaching mode of combining micro course and flipped classroom into routine teaching work through pilot and application. According to the basic course, professional curriculum categories (science and engineering, liberal arts, medicine, etc.) should be distinguished and designed to produce based on the course characteristics and learner characteristics.

4. Colleges and universities should organize the training of teachers and learners on ideology, theory, and method

The teaching management measures urge teachers and learners to change their ideas as soon as possible. Furthermore, through training and guidance, teachers can master micro-curriculum design and production, flipped classroom teaching methods and other relevant teaching techniques and methods, guide learners to gradually adapt to the new teaching model type, and can change the previous exam-oriented education learning habits, improve the ability of independent learning, problem finding and problem solving ability and ability to innovate. Teachers and students work hand in hand to change their ideas and roles and jointly promote the effective implementation of teaching mode.

Conclusion

In the process of research and experiment and promoting the teaching mode combining micro-lesson and flipped classroom, an assessment system should be developed to evaluate the teaching process of a flipped classroom, the improvement of learners' professional ability and performance, which cannot be assessed by traditional assessment methods.

References

Ash, K. (2012). Educators view "flipped" model with a more critical eye. Education Week, 32(2), 6-7.

Bachman, L. F., & Palmer, A. S. (1996). Language testing in practice. Oxford: OUP.

Bergmann, J., & Sams, A. (2012). Flipping the classroom (pp. 42-43). San Bruno: Tech & Learning.

Bernardin, H. J., & Beatty, R. W. (1984). Performance appraisal: Assessing human behavior at work. Boston: Kent Publishers.

Berrett, D. (2012). How "flipping" the classroom can improve the traditional lecture. The Chronicle of Higher Education. Retrieved August 12, 2014 from http://chronicle.com/article/How-Flipping-the-Classroom/130857/

Clark J M,Paivio:A Dual Coding Theory and Education[J].Educational Psychology Review,1991,3(3),p.149~170.

Fulton, K. (2012). Upside down and inside out: Flip your classroom to improve student learning. Learning and Leading With Technology, 39(8), 12-17.

Herreid, C. F., & Schiller, N. A. (2013). Case studies and the flipped classroom. Journal of College Science Teaching, 42(5), 62-66.

Kathleen F. Upside Down and Inside Out: Flip Your Classroom to Improve Student Learning [J]. Learning and Leading with Technology. 2012 (6)

Mangan, K. (2013). Inside the flipped classroom. Chronicle of Higher Education, 60(5), 18-21.

Paivio, A. Dual Coding Theory: Retrospect and Current Status [J].Canadian Journal of Psychology, 1991/45:255-287.

Sadoski, M., Paivio, A.,&Goetz, E. T. A Critique of Schema Theory in Reading and a Dual Coding Alternative [J].Reading Research Quar-terly,1991/26:463-484.

Sams, A., & Bergmann, J. (2013). Flip your students' learning. Educational Leadership, 7, 16-20.

Zajonc, R. B., Murphy, S. I., & McIntosh, D. N. Brain temperature and subjective emotional experience. In M. Lewis & J. M. Haviland (Eds.), Handbook of emotions (pp. 209-220). New York: Guildford Press. 1993.

Zhang, F. (2016a). A study of the autonomous learning model of college English reading under the MOOC environment. Aussie-Sino Studies, 10, 47-48.

Zhang, F. (2016b). Outline signal teaching method and college English reading teaching under the environment of MOOC. AMAHS International Conference, 12, 457-460.

Zhang, F. (2016c). Research on teaching performance evaluation of college English based on MOOC. Journal of Residuals Science & Technology, 13(8), 200.1-200.4.

Zhang, F. (2017a). Quality-improving strategies of college English teaching based on microlesson and flipped classroom. English Language Teaching, 10(5), 243-249.

Zhang, F. (2017b). Research on the college English teaching mode of "Internet+Flipping the classroom". International Journal of Intelligent Information and Management Science, 6(2), 57-58.