

Research on the Construction of MOOC-based O2O Higher Vocational English Teaching Models

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Abstract

The paper began with an outline of the O2O teaching models available to higher vocational English teaching. Then, after a careful analysis, it pointed out the benefits of introducing the O2O models into the teaching, including providing more innovated teaching models, more reasonable curriculum, and professors and lecturers capable of delivering higher quality English teaching. Beginning from the application of Flipped Classroom, it tries to recommend a way to construct MOOC-based O2O higher vocational English teaching models from three aspects, i.e. guiding students' preparation before class, selecting more reasonable teaching resources and carrying out extracurricular activities. In addition, it presented an evaluation appraisal system for the MOOC-based O2O higher vocational English teaching models to offer students with a learning platform for them voluntarily exploring and creating learning situations. In a bigger picture, it's expected that this new approach could provide the O2O English teaching in higher vocational education institutions with a feasible option of mass education and significantly enrich the English teaching tools.

Keywords: MOOC, O2O Teaching Models, Higher Vocational English.

1. BACKGROUND INFORMATION

1.1 Overview

Higher Vocational English Education System has an important position in the Chinese higher education system. Higher Vocational English Education is an essential part of English teaching in Chinese higher education. Higher Vocational English (HVE) is one of the compulsory courses of Chinese students in HV colleges. Over years, in order to improve the effectiveness and quality of HVE teaching, many HVE teachers and researchers have devoted themselves into reforming and improving the HVE Education System. For all the brilliant achievement they've made, more and more problems and challenges emerged during the reform. First of all, the whole English education is about learning, instead of teaching. The lack of real language environment has remained an unresolved problem for a long time in English teaching in China, leading to a much shorter time of face-to-face practicing, a seriously crippled interactive learning, and subsequently a much less effective and efficient learning experience of students. Second, a great part of HVE teaching and learning resources are in a rather stagnant or closed state, showing little potential of self-evolution, be it dynamic or life evolution. High quality or elaborate teaching materials are rare to see (Sui, 2016). But fortunately, along with the fast development in network technologies, there came a brand new way of HVE teaching, i.e. MOOC. Boosted by the MOOC concepts, the O2O models in English teaching now find a room for new development. Actually, it has been applied in HVE education in higher vocational education institutes and was warmly received by both teachers and students.

1.2 Objectives

The paper tries to construct a MOOC-based O2O (Online To Offline) HVE learning platform by combining the essential components of the MOOC models and Flipped Classroom models with currently widely applied Online-To-Offline education models. This platform will enable English teachers to set up MOOC-based O2O teaching models in line with specific student conditions and response and then effectively improve their English listening, speaking, reading, writing and translating skills (Mu, 2017). Taking advantages of the merits of both approaches, the MOOC-based O2O model will enable students to improve the capacity of autonomic learning and make it easier for teachers to teach students of different aptitudes in a way more adapted to their actual learning performance. In addition, the novelty in the online-and-offline model will apparently inspire students

with some new experiences and effectively motivate them to study and complete every component of the course. By replacing the pure MOOC models to a more comprehensive one, it will help students maintain the autonomic learning and effectively overcome the shortcomings found in traditional classrooms. It's believed that a well-constructed MOOC-based O2O HVE teaching model could effectively resolve some obstinate problems in traditional English teaching and even convert some of the problems into attractive features that motivate students to learn in a more active and initiative way. Moreover, it can enable learners to fine-tune their learning activities up to the best possible condition with various adjustment and control measures. Also, by combining the advantages of online autonomic learning and traditional classroom learning, it can make it easier for the learners to outline and consolidate everything they've acquired.

2. OVERVIEW OF O2O HVE TEACHING MODELS

Along with the fast development of science and technologies, the information technology has been increasingly used in different education areas. Today, a wide variety of teaching approaches, e.g. the MOOC and Flipped Classroom, have become an integral part of the O2O English courses. Such IT-powered teaching approaches are originated from the well-developed web-based teaching, distance learning and video teaching. In 2001, the MIT uploaded some teaching footages of a few of its courses on the internet and opened them to the public for free, unleashing a fever of uploading free teaching videos online in global higher education circle. The MOOC is another free-of-charge teaching approach that became popular around the world in 2012. Attracted by the creativity in it, many world famous universities began working together to develop their MOOC modules. Today, a colorful variety of MOOC modules are available to learners. In 2013, the MOOC was officially introduced into China (Wu, 2017). The MOOC-based O2O HVE teaching platform is a very important vehicle helping students improve their initiative in learning, quickly getting feedbacks on their learning or training more directly, and achieve self-improvement more effectively. The content of O2O teaching is not limited to what conveyed in class, but also include the interactive activities and exchanges happened after class. An O2O teacher would make his/her teaching content much more flexible to students according to their needs. The O2O HVE teaching has unique characteristics in itself. For all the importance that people in domestic and international education circle have attached to the IT-powered teaching and all the efforts they have invested, in the HVE teaching circle, however, the low awareness of utilizing IT-powered O2O English courses has led to an unsatisfactory amount of successful O2O English teaching application results. To integrate the MOOC in the O2O HVE teaching, there are still a lot of reforms to initiate and a series of problems to resolve. The O2O HVE teaching model is generally shown in the Figure 1 below:

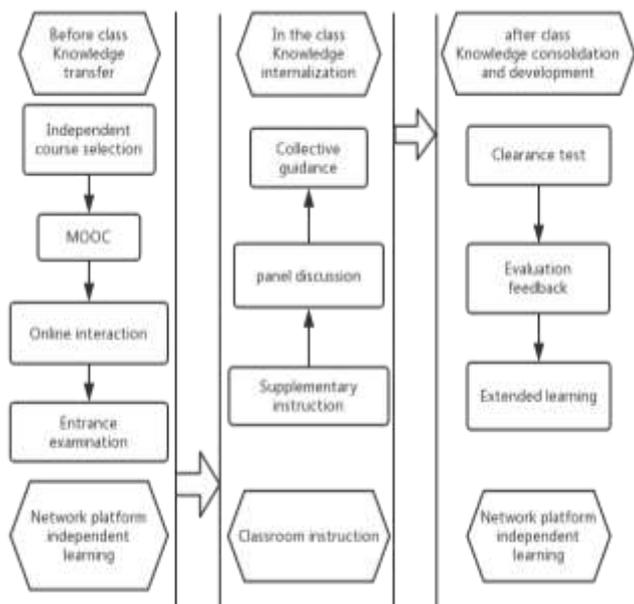


Figure 1. Teaching Model in Higher Vocational English

3. THE IMPORTANCE OF MOOC TO O2O HVE TEACHING

3.1 Teaching model innovation

MOOC is a teaching mode widely used in English teaching. By combining the MOOC and the O2O HVE teaching, we now have a brand new teaching approach. Of course, some higher vocational colleges would apply the Flipped Classroom in their language education. But the MOOC is totally different from the traditional approaches in that it could fully motivate students to study more proactively and enable teachers to flexibly adjust the content of a course according to students' needs. With the help of the student learning terminals and the teachers' terminals of a MOOC platform, both students and teachers are now able to maintain more effective interactions. In class or after class, the English learning will go on, not to speak of the novel experience it offers and the personalized learning it supports (Xiong, 2017). The purpose of applying the MOOC model is to set up a new teaching model tallying with the actual situation of today's higher vocational colleges. In this new model, a great deal of attention will be given to the diversified development of students, the improvement of teaching competence of teachers, and the need of coordinated development of society, to maximize the efficiency of O2O English teaching in a MOOC environment. The combination of the MOOC and the O2O approaches, however, still needs more supports in terms of its actual application in real life. It's necessary, therefore, for O2O teachers to develop more high quality MOOC models in line with student conditions and the human resources needs in the society to keep it in step with the progress of the world (Ding, 2016).

3.2 More reasonable curriculum

The MOOC modules are delivered through the network and multimedia equipments, seamlessly integrating smart whiteboards, student learning terminals, teachers' terminals and school networks. The learning materials are transferred through the internet and the learning environment is totally created around mobile smart equipments. Using the MOOC approach, teachers are now able to invest more time in improving the learner's knowledge base and knowledge application competence. In response to the new development in the education sector in China, the English teaching should be constructed and aligned with the overall objective of 'cultivate inter-disciplinary practical talents with innovation capacity', particularly in terms of teaching strategies and methods. And the English teachers may concentrate more time and energy in expanding students' English knowledge base and improving their English proficiency, give them a clearer orientation of English learning and, subsequently, help them better connect the specialized courses with their future career development, and finally develop more practical teaching contents (Deng and Liu, 2016). In addition, in a MOOC program, the teachers may set up for different students more personalized learning service platform and themed learning resource pools. Without ignoring the merits of conventional teaching models, with sufficient consideration given to the unique characteristics of O2O English teaching, we may integrate the MOOC concepts into the O2O teaching models. Specifically speaking, set up evaluation values and related incentive mechanism to better understand the learners' interest in learning, effectiveness and efficiency of learning, interaction responsiveness, convenience of operation, and the quality of modules the teacher created. Together with an improved teacher-student interactive learning evaluation mechanism and resource-sharing incentive mechanism, they could form an integrated comprehensive English curriculum and thus achieve a more reasonable O2O English curriculum design. The O2O Teaching Process is shown in Figure 2 below:

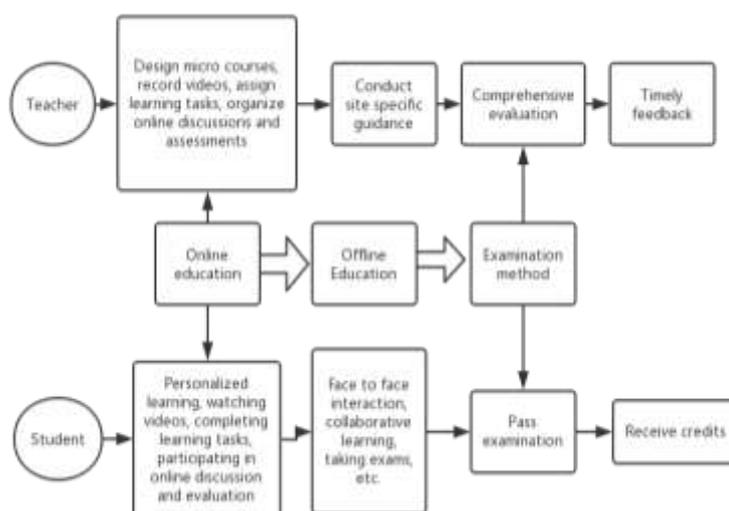


Figure 2. Teaching Process

3.3 Improvement of teaching competence

There is a distinctive difference between the MOOC approach and the traditional teaching approach. This led to a problem: many teachers find it hard to manage the IT-based teaching tools. In a normal O2O English teaching process in a higher vocational college, both students and teachers log on wirelessly the school intranet with his/her personal smart terminals. Then, the MOOC platform steps in, providing a great convenience for the two sides to start and maintain interactions. In addition to the real time interaction between teachers and students enabled by the mobile terminals, the students may directly download learning contents and hand in homework via the wireless intranet. And the teachers may provided a more personalized and specific instruction for students in the same way. Also, the teachers may review the learning performance of student via public internet and the students may evaluate the teaching effectiveness and efficiency of any teacher via the school intranet. This will incent the teachers to continuously improve themselves, professionally and personally, to be well received by students (Zhang, 2016). To do so, a teacher should first of all familiar himself/herself with the O2O English teaching, the operational skills of various multimedia tools and the production of teaching videos, and have all the skills required for creating IT-powered O2O English teaching models for different students. That is to say, the teacher needs to really understand the personalities and aptitudes of students and set up more reasonable courses according to their actual learning performance and align their English learning with their future development. This actually put a very high requirement on the teachers' ability to continuously reform and improve the combination of the MOOC concepts and the O2O English teaching. But on the other hand, the exploration of the IT-powered O2O HVE teaching reform will beyond all questions help teachers quickly improve themselves in a comprehensive way.

4. THE PATH TO CONSTRUCT THE MOOC-BASED O2O HVE TEACHING MODELS

4.1 Guide students' before class preparation with the Flipped Classroom model

In general, it is about creating comprehensive teaching programs and developing comprehensive curriculum resources in line with the students' development direction, while improving their English level. In this process, the teachers should pay great attention to the different learning performance of different students and develop teaching resources in a more flexible way (Jian, 2016). First of all, the teachers need to guide students to complete before-class preparation more effectively and lead them to share what they've got from watching the teach videos. If the teaching videos are carefully reviewed, the students would be able to have a general understanding over the content to be learnt before class. Then, one step after another, by going through all the module training, resource-sharing, practicing, evaluation and feedbacks, corresponding with the MOOC content available on the English teaching resource platform, the student competence of independent learning will be significantly improved, together the knowledge internalization. After that, the student may start a more specific or comprehensive learning via mobile devices at any time he/she wants. The before class stage will help students record all the important message down and provide the teachers with a great reference for follow-up learning performance evaluation, so that a better way may be developed to motivate student learning (Zhu and Bi L.2016). In addition, the before class preparation will give student a clearer view over his/her weak points in learning and thus enable him/her to timely adjust learning plans, which will obviously relieve a great deal learning pressure on the class and improve learning effectiveness and efficiency. See Figure 3.

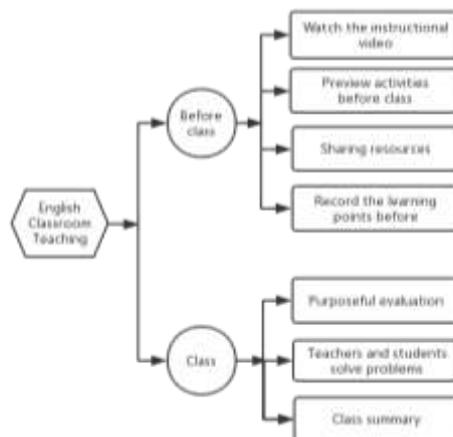


Figure 3. English Teaching Organization Chart

4.2 A more reasonable selection of teaching resources

The teachers need to design and produce all learning resources for students according to the knowledge to be passed and the students' needs. These resources are compulsory for students to use. The process also involves Formative Resources, the dynamic resources created by the teachers by organically consolidating the students' confusions, questions, experiences and opinions that the teacher discovered during the teaching process. When selecting the learning resources for students, therefore, the teacher should first of all set up a scientific, rational, systematic and specific HVE teaching plan, then develop the content delivery models of the English course, identify the basic scope, difficulty level of the content, and pinpoint the additional educational demands in language points, application skills, independent learning capacity and cultural competence (Liu and Wang, 2016). Secondly, the teachers need to create comprehensive teaching plans and develop comprehensive curriculum resources. After carefully considering the learning needs of students and the difference of students in themselves, the teachers should create a plan to confirm the exact utilization of traditional textbooks, video materials and other teaching resources to achieve the synergy of multiple resources, make the best of all, and provide students with a consolidated before class preparation resource. The completed O2O teaching platform is shown in Figure 4.

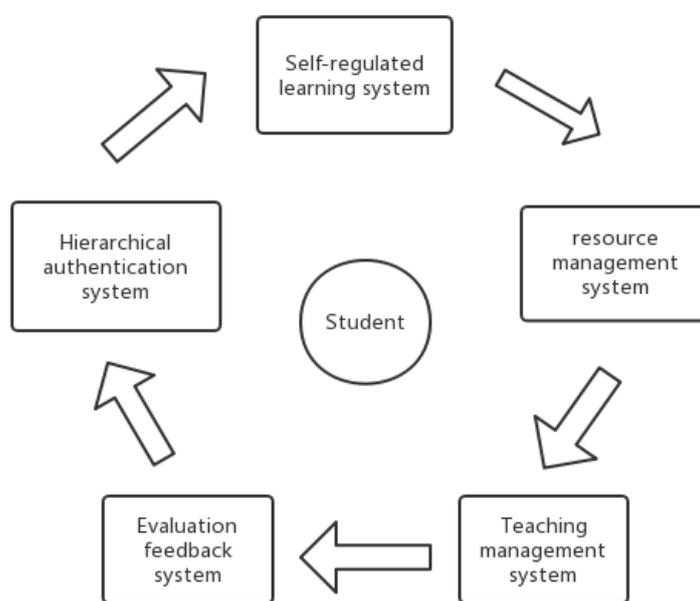


Figure 4. O2O Teaching Platform for Higher Vocational English

4.3 After class practices and activities

The higher vocational English (HVE) is highly oriented toward language application. Consequently, while developing in students an understanding of the fundamental rules of the language, it's highly necessary to give students more opportunities to practice the language they learned. In the background of continuous innovation and reforming in the education sector, it's foreseeable that the application of the O2O model will get increasingly extensive. In fact, the O2O model can play a very important role in improving teaching quality. When combined with the MOOC approach, it can effectively overcome the drawbacks resulting from exam-oriented education. While improving the knowledge level of students, it can help learners to meet the needs of the job since it pays greater attention to developing the competence of using what has been learnt (Yuan and Liu, 2014). It's recommended that colleges may join hands with companies to set up a brand new education model that converts abstract theories into intuitive practices and activities, making it easier for learners to use what they've learnt online in the offline activities. Also, it is a very effective way to inspire the spirit of innovation in students since such connection of the theoretical knowledge with practicing skills could help learners to develop divergent thinking by encouraging them to handle the problems occurred in day-to-day work. Such a teaching approach put a high requirement on teachers' teaching capacity. Being a rather daunting challenge as it is, it will stimulate teachers to complete their theoretical knowledge and help them to obtain rich experiences in the practices during the same teaching and practicing process. In the end, the overall teaching competence will rise and the mutual development of the learner and teacher is achieved.

5. THE EVALUATION SYSTEM OF THE MOOC-BASED O2O HVE TEACHING MODEL

It must be pointed out that under the O2O English teaching model, the learning objectives vary greatly with different students. So, we have to consider the different characteristics of different students. This is why we need a reasonable evaluation standard to oversee the learning performance. The role of English teachers in this model include sorting difficult problems in before class learning, explaining them for students in class, separating students in different learning groups and instructing different group to focus on different problems, or letting students to form learning groups by their own choice according to their learning levels and developing their capability to independently solve problems and make innovation (He, 2017). The task of students shall be mainly concentrated on developing the habit of positive learning and the ability to choose problems they want to resolve independently. When trying to resolve the problem, the students may discuss it over with other students, share their thoughts on how to resolve it, and maintain the communication and exchanges over it with each other. This will largely intensify the interaction among students, create a more comfortable atmosphere in class, and improve the student’s capacity of learning independently. Meanwhile, the teachers should pay great attention to the comprehensive evaluation and feedbacks on student learning performance, that is to say, provide them an objective assessment over their learning results and thereby help them further improve the skills or internalize the knowledge.

There are a lot of variables in the evaluation of the O2O English teaching. Therefore, we need the help of the Analytic Hierarchy Process (AHP) to simplify the evaluation. First, we need to set up a matrix according to the importance of different influential factors. Since $K = (L_{fg})_{b \times b}$, $L_{fg} > 0$; $l_{fg} = \frac{1}{l_{gf}}$; $l_{ff} = 1$, we can calculate the one-time indexes with the equation $M.N. = \frac{h_{max} - b}{b - 1}$ to obtain the one-time proportions $P.Q = \frac{P.O}{Q.O}$, and arrive at the random consistency ratio of the total sorts (equation: $M.N. = \frac{\sum_{g=1}^b a_g \times M.O_g}{\sum_{g=1}^b a_g \times Q.O_g}$), and finally export the matrix according to judgment matrix. Assume a student participating into an O2O teaching model need to make a choice about the learning results and the time costs of learning and the goal is to achieve the best possible learning results. Then his decision-making equation could be described as:

$$\begin{aligned} & \max Q_x(w_a e_a r) \\ & a.s(1 + d_f)G_a^e h_a = z_x - c \end{aligned} \tag{1}$$

In the utility function “Ux”, the “ w_a ”, “ e_a ” and “ r ” respectively stand for the knowledge or ability that the student achieved in different teaching models. The “ G_a^e ” is the learning effort of the student. The “ h_a ” is the conversion factor. The left side of the equation shows the total time the student has invested in English learning under the O2O model. The “ z_x ” is the knowledge or skill obtained. And finally, assume the factors have the features of a utility factor, i.e.

$$\frac{\lambda Q_x}{\lambda w} > 0, \frac{\lambda^2 Q_x}{\lambda w^2} < 0; \frac{\theta U_x}{\theta u} > 0, \frac{\theta^2 Q_x}{\theta u^2} < 0; \frac{\theta Q_x}{\theta n} > 0, \frac{\theta^2 Q_x}{\theta n^2} < 0 \tag{2}$$

The student then try to achieve the utility maximization by choosing the right combination of $(1 + g_a)G_a^e$ and (w_a, e_a) . The indirect utility factor is: $T(w_a, p_a, k_x) = U_x(q_a, e_a(G_a, k_x), k_x - G_a e_a(G_a, k_x))$. It’s obvious that the O2O approach can improve the student’s learning results in a better way.

$$\left. \frac{n G_a}{n w_a} \right|_{T_x = \bar{T}_x} = - \frac{\frac{\theta T_x(w_a, e_a, r)}{\lambda d}}{\frac{\theta T_x(w_a, e_a, r)}{\lambda w_a}} \tag{3}$$

In the AHP equation, i.e. $d_{fg} = \frac{c_{fg}}{x_{fg}}$, $c_{fg} = \frac{b_{fg}}{\sum_{f=1}^c b_{fg}}$, $x_f = \frac{1}{b} \sum_{g=1}^b c_{fg}$, $d_{fg} \sim q(1, l_0^2)$. Then the test statistics may be obtained with the equation “ $r^2 = \sum_{f=1}^{b^2-1} \frac{(d_{f+1} - d_f)}{2v_0^2} \sim r^2(b^2 - 1)$ ”. The consistency of the judgment matrix may be tested with a statistical test method and selected according to the specific conditions of the decision to make and personal preference.

The teachers need to develop an overall evaluation mechanism according to students’ learning objectives. In the feedback stage, it’s better to let students within the same learning group to give their feedbacks on others’

performance, since they know each other in a cooperative process and would more often than not provide the most authentic opinions. Next, let the learning groups to provide feedbacks on each other, in which by observation and learning the strong points of others, members from different groups may also present insightful evaluation. In the end, the teacher shall outline all the evaluations have been given and present the final evaluation (Jian and Du, 2016). Finally, the in class performance and learning performance of students shall be included in the final evaluation system in line with the student-first teaching philosophy.

6. CONCLUSION

The MOOC-based O2O HVE teaching model move the knowledge learning, the essential part in the conventional class teaching, to the before class preparation stage that is centered on helping students to learn independently the learning resources assigned by the teacher and understand the key knowledge points that the teacher would explain during the class teaching (Deng and, 2017). Then the knowledge internalization became the core of class teaching. This is a brand new mixed teaching model that separate in class teaching with after class learning powered by both online and offline learning methods. It is a real revolution of the traditional class teaching model and has substantially overthrown the traditional English teaching. With the help of right teaching and learning evaluation system, it will achieve greater development in the future and effectively improve the overall capability of students.

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