Reconstruction and Transformation—“Four-in-one” Teaching Design Integrated with “Guidance Learning + Flipping + Tracking + Evaluating” with the Blending Teaching Background

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Abstract. MOOCs is giving rise to revolutional transformation to higher education. Gradual perfection and development of MOOCs and blending teaching reform with the informatization construction background play a non-negligible and important role in accelerating high education teaching revolution and improving teaching quality of higher education. Blending integrated teaching design is the key for blending teaching. It is necessary to aim at the growth and cultivation of students, and give play to the creativity of teachers, and motivate the initiatives of students with the teaching design integrated with “guidance learning + flipping + tracking + evaluating”. In this way, it realizes the reconstruction and transformation of curriculum teaching, contributing to the innovation and deepening of teaching reform.

Introduction

George Siemens and Stephen Downs of Canada Athabasca University proposed cMOOC for the first time in 2008 based on the connectivism learning theory model (C is the initial of Connectivism), to create the global first cMOOC type course (CCK08) [1]. MOOCs gave rise to earthquake effect in global educational circles in 2012, affecting the educational circles in China in 2013. The sharp rise of MOOCs gives rise to wide discussion in domestic and overseas educational circles, with totally different opinions and intense discussions. The divergences are mainly involved in seven aspects such as what is the nature of MOOCs, a subversion of traditional mode of higher education and a creation of a new educational era, or a speculation on online education[2]? Undeniably, MOOCs is bringing about revolutional transformation to higher education, which is still in initial stage, with significant advantages and disadvantages. MOOCs cannot totally take the place of traditional classroom teaching, and it has the largest value of demonstrating the huge influence of technology on education. However, it is a catalyst promoting the combination between education and technology, but not a panacea solving problems in higher education[3]. Therefore, it plays a non-negligible and important role in accelerating high education teaching revolution and improving teaching quality of higher education to gradually perfect and develop MOOCs and conduct blending teaching reform with the informatization construction background.

Reconstruction of Classroom Teaching with the Blending Teaching Background

Blending teaching refers to a teaching mode achieving a more efficient teaching effect by combining traditional classroom teaching and MOOCs and giving full play to the advantages of the two methods. Compared with traditional teaching method in an oral or written way but not network technology, the blending teaching mode adopts the method integrated with face-to-face teaching and MOOCs, and the contents of considerable proportion are finished by online learning, with greatly reduced times of face-to-face teaching. In addition, there are differences on teachers and students between the blending teaching mode and the traditional teaching method. Although the teachers of the blending teaching also take improvements on learning and learning effect of students as the targets, they master more “resources” due to MOOCs in addition to traditional teaching aids and
multimedia equipment. What MOOCs brings in is not the transformation on forms; more importantly, it breaks through the tradition that classroom teaching is the “patent” of knowledge teaching, and teachers need to finish their teaching targets by selecting and utilizing suitable “resources”. Of course, some advantages of traditional classroom teaching cannot be replaced by MOOCs, such as the timeliness and the effectiveness of communication. However, blending teaching lays emphasis on the combination of the advantages of the two, seeking for the optimal distribution between online and offline methods. Students will become the “center” of blending teaching. Teachers need to consider on view point of students, and reasonably organize and distribute the “resources”, in order to promote the accomplishment of learning targets of students and achieve the optimal teaching effect. Therefore, effective blending integrated teaching design is the key for blending teaching. The reconstruction of classroom teaching with the blending teaching background is the core for blending teaching reform.

"Four-in-One" Teaching Design Integrated with "Guidance Learning + Flipping + Tracking + Evaluating"

Teaching design refers to the system activities of organizing teaching contents and resources and designing teaching activities and learning environment with the guiding of teaching theories and based on characteristics of teaching objects (specific learners), to finally help the learners to effectively achieve learning targets. Teaching design takes solving practical teaching problems as the purpose, working as the bridge between teaching theories and teaching practice[4]. However, scholars on curriculum and teaching theories propose seven elements for curriculum teaching, i.e., teacher, students, learning target, learning content, learning method, teaching environment and learning feedback[5]. The seven elements are recombined in blending teaching environment, added with new connotations. However, blending teaching lays more stress on integration with “network technology” in teaching design. Therefore, this article proposes the advantages of blending teaching, and achieves the reconstruction of curriculum teaching and highlights “four-transformation” through the “four-in-one” teaching design integrated with “guidance learning + flipping + tracking + evaluating”.

Developing Guidance Learning, and Laying Emphasis on the Transformation to “Self-Directed Learning” as the Teaching Target

The “guidance learning” of the traditional significance is also known as preview before class, playing a role of “exploring the way”. However, there are numerous defects and misunderstandings due to subjective and objective reasons. Firstly, students do not have clear learning target. They just have a rough idea about the contents of the next class by browsing teaching materials or finishing simple pre-class exercise, and do not have a clear idea about what to learn and how to learn. It is difficult for teachers to master the learning quality or learning effect of students, far from timely and effective feedback. Secondly, the contents are dull with too little forms. Students are only requested to get familiar with teaching materials, but not reading related books or consulting to related information. Students do not have a clear purpose or task on preview, and fail to think and summarize aiming at key and difficult points; they only finish tasks in a superficial way. In addition, the pre-class exercises with too many objective restrictions but insufficient subjective openness restrain the active thinking of students, leading to an inevitable consequence of producing very little effect without necessary guidance.

By giving full play to advantages of network technology, the “guidance learning” with the blending teaching background realizes effective pre-class communication and exchange between teachers and students through the following processes, to lay a solid foundation for the development of the curriculum. Firstly, teachers need to conduct sufficient analysis on curriculum status, curriculum object, blending teaching environment, curriculum design and curriculum teaching contents according to practical demands of students, in order to give full play to teaching characteristics of various types of teaching resources. Secondly, teachers shall guide students to learn
in a self-directed, active and efficient way by utilizing MOOCs online learning platform and issuing pre-class work order. In addition, teachers shall conduct effective analysis on online learning data of students, in order to reasonably design the teaching contents of face-to-face curriculum aiming at the problems in pre-class learning. Thirdly, teachers shall give full play to the role of carrier of curriculum outline. The curriculum outline here is different from the one with the traditional significance. The curriculum outline of traditional significance is the recapitulative writing on teaching target, teaching requirements, teaching contents and teaching hour distribution. It aims to teachers, peers or experts. However, the curriculum outline proposed here aims to students, and it is required to make students understand and make use in writing. With different “audiences”, it works as a “contract” between teachers and students. Teachers need to sufficiently and effectively interpret the curriculum outline, to make students understand detailed contents and knowledge points in each class, and help them make sufficient pre-class preparation. That is to say, teachers need to teach students how to use the curriculum outline, in order to give full play to the “bridge” effect of curriculum outline between teachers and students.

Therefore, the “guidance learning” with blending teaching background is the bilateral interactive activities of the “guiding” of teachers and the “learning” of students. Teachers shall motivate students’ learning interests and initiatives through effective guidance, to promote their self-directed learning. The activities are not periodical activities, but continue in the whole blending learning process.

**Flipping of Classroom, Paying Attention to the Transformation to “Co-Opetition” of Teaching Environment**

Traditional curriculum idea is a giving and accepting teaching idea. As acceptors, students are not allowed to hold their own attitude, doubt or criticism. In this condition, students have very limited participation degree in class. It is difficult to motivate the initiative of students, leading to a passive and receiving habit, far from criticism and innovation, which is one of the important barriers for curriculum teaching reform. After the popularization of higher education, traditional curriculum cannot meet the requirements on cultivation of diversified talents due to uniform teaching, training requirements, teaching mode and evaluation standard [6]; therefore, it is difficult to enlarge the coverage of individualization in teaching. In addition, information acquisition becomes easy and quick due to the increasingly grown network coverage and wide application of network technologies in nowadays with rapid development in information technology, leading to a sharp drop on value of traditional classroom teaching. The great abundance and interestingness of network contents lead to challenges to traditional classroom, and a battle between teachers and network for striving for students starts in a subtle way.

Corresponding to traditional classroom, flipped classroom has become a hot word in education field in recent years. It gives rise to series of transformations on roles of teachers, curriculum mode and management mode. In the blending teaching environment, students finish pre-class tasks in the guidance learning process such as MOOCs learning and reading designated booklist. They have certain knowledge base and problems during this process, which provides important base and convenient conditions for flipped classroom, and provides possibility on reconstruction of learning process. As an important method for flipped classroom, the achievement orientation method highlights cooperation and exchange among students as well as co-opetition between groups. On the aspect of achievement oriented education, the action-oriented teaching method originated in Germany vocational education field in 1980s gives rise to a large influence, which has been the teaching method widely recognized in the world [7]. According to different forms, it can be divided into the problem-oriented teaching method, the case teaching method and the project teaching method. The implementation of the action-oriented teaching method can greatly motivate the learning interest and enthusiasm of students, to make them learn actively and finish the transformation to “student centered” orientation. The flipped classroom with the integrated teaching mode background has similar teaching philosophy and method. Students become the subjects of classroom during the flipping process, realizing the integration in and out of classroom. The students...
exhibit and share their learning achievements, and teachers guide students on exchange and debate, in order to finish the arrangement of key knowledge points during the collision of thoughts. Teachers can track the learning status of students according to the process, in order to design teaching contents and adjust teaching method in a targeted way.

More importantly, different from students’ individual participation in the traditional learning mode, students in flipped classroom finish learning tasks in groups. Students with different labor divisions deepen understanding through discussion, in order to finish curriculum learning and achievement exhibition. Students improve their team work ability and sense of competition during the process of cooperation among students and competition among groups.

**Tracking Evaluation, Paying Attention to the Transformation to “Knowledge Applying” of Teaching Effect**

As the product of the elite education era, traditional classroom takes teaching of knowledge as the purpose. Teachers are the subjects of the traditional classroom, dominating everything in the classroom, and students are only the acceptors of knowledge [8]. Traditional classroom aims to make students acquire knowledge, ignoring the improvement on competence and quality of students. In traditional classroom, students only need to follow the teaching schedule of teachers and accept knowledge. There are increasingly enlarged distance between theoretical learning and practice, which are even separated from each other. Students cannot achieve “the unity between practical and theoretical knowledge”, and they are only engaged in idle theorizing.

MOOCs plays an important role in blending teaching that teachers do not need to list and elaborate all the knowledge points in class, and they only lay the emphasis on the distribution of knowledge points between MOOCs and classroom. Which of them are finished by MOOCs, and learned by students in a self-directed way; which are taught by teachers and discussed by students in classroom. Therefore, teachers shall transform their teaching strategies and conduct active reform on teaching method during the classroom teaching process in addition to necessary elaboration. Teachers shall motivate the students with “questions” to act, in order to seek for answers and develop divergent thinking, to generate preferable interaction between teachers and students as well as between students. Teachers and students shall jointly finish activities such as solving problems and cooperative exploration. Students do not only passively accept knowledge, but finish the internalization and externalization of knowledge, which is the important standard for measuring teaching effect.

The teaching effect with blending teaching background refers to the “comprehensive” effect of learning. In flipped classroom, students bring in questions and discuss with the guidance of teachers, and finally propose the solution. Students strengthen their theoretical knowledge, and gradually learn how to analyze and solve simple problems during this process. Teachers can also introduce knowledge points by selecting typical, representative and practical cases, in order to guide for students to consider and solve practical problems. After classroom teaching, teachers need to guide students to develop investigation activities and participate in practical topics by utilizing theoretical knowledge in combination cases or projects according to the cultivation target and the curriculum target of the students. In this way, they can regard the industry in a “specialty” angle, and detect advantages and disadvantages to solve practical problems. These activities or projects often need longer period, in need of cross-discipline knowledge and effective combination between knowledge and skills. Therefore, students need to finish curriculum learning in a more self-directed way. During this process, teachers play a fading out role, only providing guidance when students face with problems or doubt. Students become subjects and the center of learning process, which is beneficial to the cultivation of the exploration spirit, the innovative competence and the communication ability of students. Teachers can master teaching effect during this process, and teaching management department can take the process as the basis for evaluation on curriculum construction conditions, in order to conduct effective tracking evaluation.
Assessment Evaluation, Paying Attention to the Transformation to “Stepwise Sense of Acquisition” of Teaching Evaluation

As an important part of teaching, curriculum assessment is the important approach and means for reflecting teaching information, inspecting teaching achievement and improving teaching works. In the curriculum assessment of traditional significance, the method of final exam and daily performance is generally adopted, in which the former item occupies the most proportion. The daily performance occupies only a very small proportion, and teachers assess students only by test paper, leading to the consequence that students pay special attention to tests but not process learning. In addition, on the aspect of assessment content, knowledge assessment takes large proportion, ignoring understanding and application of knowledge, with most memorable questions but very little open assessment. Therefore, students often acquire good performance with “cram” before exams. However, it leads to very low “retention rate” of knowledge, far away from practical application.

As an important part of blending teaching design, assessment evaluation highlights the guiding role. With the blending teaching background, on one hand, assessment evaluation is divided into two parts of forming assessment and summary assessment, in which the former one is more important. It lays emphasis on the assessment evaluation on the learning process of students, guiding them to actively participate in various processes of the learning process. During this process, the instant feedback of MOOCs and the “satisfaction” acquired during helping others and participating in discussion provide students a pleasant sensation similar to “upgrading by beating beasts”. Students acquire staged achievements and keep the stepwise “sense of acquisition”. Teachers understand the learning progress and effect of students through the analysis report on background data related to learning behaviors of students, in order to give targeted comment, and help them conduct self-conclusion, and have a correct awareness on learning effect. It achieves more targeted and efficient learning. Open assessment methods can be adopted for the summary assessment, such as continuation of classroom teaching, investigation activities, in-depth research on practical topic or compiling of curriculum paper, which are similar to “final BOSS”. Students will have higher “sense of acquisition” after overcoming the difficulty. On the other hand, it is necessary to pay more attention to the diversification and the individualization of assessment evaluation methods. For example, it is available to give play to the subject role of students and add self-evaluation and mutual evaluation between students, in order to make students detect their defects, exercise reflection ability and expression ability. In this way, they can increase their sense of cooperation during reflection, which lays a good foundation for the growth and development of students.

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References


