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# **Research Article**

# EMERGENT CURRICULUM DESIGN AND IMPLEMENTATION BASED ON MOSO TEACH SYSTEM

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### ARTICLE INFO

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### **ABSTRACT**

Based on the constructivism learning theory, emergent curriculum emphasizes the collaborative construction of knowledge, dynamically generated, the depth of the students thinking, communication and interaction. This research aimed at the serious problem incurrent network curriculum, such as low utilization rate, low learning efficiency and weak enthusiasm. According to the basic idea of the emergent curriculum, based on Moso teach system, this study designs and implements a collaborative construction and peer coaching curriculum between teachers and students. With ways of open teaching activities, personalized curriculum resources, construction of peer mutual knowledge, and interactive learning process, this curriculum stimulates students actively participate in various learning activities and teaching process, and also enhances the level of the students' cognitive engagement and deep learning.

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# **INTRODUCTION**

Over the past few years, we have built a large number of quality courses and various types of network courses, to solve the problem of scarce educational resources, and to provide a strong guarantee for online learning. However, some general and structural problems have appeared in the course construction. The focus problem of the current existence is that there are massive learning resources, but only a small amount of learning to take place. A research by WangYoumei<sup>1</sup> showed that network courses as a knowledge and information intensive educational technology products, its teaching availability is a serious problem. Survey results about the learning situation of the excellent course showed that 76.92% of the students to visit the fine course website learning time less than 1 hour <sup>2</sup>. MOOC also has the problem of high rate of return and low completion rate. Overall, the problems about course construction exist in the following aspects:

1. Learning resource information is large and discrete, often in the form of static documents, content sites, etc. Usually these resources are built by a special course builder, students to browse the web or video, download the script and other ways to complete the task of learning passively. It does not play 'advantages of the internet open and interconnected, but increases students' cognitive load.

- 2. Learning activities cannot be integrated with content. Some courses seem to set up learning activities, such as discussion, homework, resource upload and so on. These activities are separated from the learning content, the activity is not strong. At the same time, learning activities are lack of timely and in-depth evaluation. In the process, cannot achieve real interaction between the learners and the content, and cannot promote the deep processing and internalization of knowledge, but it is more difficult to realize the knowledge transfer<sup>3</sup>
- 3. The application of teaching mode and strategy is mainly based on the principle of behaviorism. Course content design and teaching, practice, the transmission of information are focused on application of behaviorism strategy; ignore importance of new generation of learning philosophy and technology in the curriculum resources organization and design, process of learning support services, incentives and other aspects<sup>4</sup>.
- 4. Course construction is out of teaching, and the content is not sustainable. Course is constructed by the experts and the curriculum team in accordance with the project, and evaluated accordance with resource evaluation criteria. It divided the curriculum construction and teachers, learners, practical teaching.

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Generally, the course is almost stopped updating after the assessment, the lack of sustainable development.

Only provide learning content, it cannot help them effective learning for learners. Learners need to arrange rich activities. Mutual collaboration, peer communication and critical discussion of learning can be achieved with peer learning and deep learning. In future, the course construction will be from content presentation design to promote the construction of knowledge by learning activity<sup>5</sup>.

Dynamic and opening up is an important feature of the course construction<sup>6</sup>. Dynamic should reflect reorganization of content structure, and realize double share between content and interpersonal wisdom. Open means open of content construction, teaching, learning terminal, learners, learning evaluation, curriculum management, learning process, learning ideas and patterns.

### **Emergent Curriculum**

Curriculum development is not only for learners to provide learning content, technical tools, learning requirements, such as the way of one-way transmission, but to pay attention to the learner's knowledge construction process and the content generated. Knowledge construction is a process of the generation and continuous improvement of the value ideas in a group<sup>1</sup>.

Collaborative learning can promote learners to construct knowledge and meaning together. In the process of cooperation, it leads to cognitive conflict through discussion, debate, sharing, interactive, thus estate new knowledge and skills. Often produce different results with the default, and format a new form of generative curriculum. Generative curriculum is a kind of different from the default; curriculum implementation has the characteristics of collaboration, construction and evolution<sup>7</sup>

Emergent curriculum is in a certain situation, take well-designed trace resources (such as micro class) by teacher as a guide, construct new knowledge and skills by exploration, collaboration, communication and other activities, while share these knowledge, skills and learning experience, which will become part of the other learner learning resources. Resources, activities and evaluation are the core elements of Emergent curriculum, and resources and activities to form a pattern of aggregation.

Resources provide accurate support for learning activities; activities help the construction of new knowledge and skills that is the formation of new curriculum resources. Learning evaluation is an important guarantee for the production of resources and the participation of the activities, and which is the basis of learning evaluation.

# System to Support Course Generation: Moso Teach

Moso Teach is a client based on the mobile network environment to meet the teachers and students in classroom teaching and learning both inside and outside. The platform provides Web version and mobile APP products, are free to teachers and students. Moso Teach provides support services from three aspects of resources, activities and learning recorder. Its main functional structure was shown in fig.1.

### Resources

Moso teach fully support the construction of information resources, human resources and content resources. Among them, the content resources support a variety of ways to create, including uploading local resources, link network resources, online editing of graphics and text resources. Information resources include curriculum basic information, such as course objectives, learning requirements, teaching progress and so on. Human resources include data on the basic information of teachers and students.

### Activities

Moso teach support three kinds of teaching activities. Interactive activities, including group learning activity, voting / questionnaire, brainstorming, answering / discussion; learning deep processing, including timeliness test and comprehensive practice; evaluation activities, Score, likes and comments to learning resources and activities.

## Learning recorder

Moso teachrecord learning behavior and process, and can be derived from statistical data. These data comprehensively and intuitively reflect the situation of learners in resource creation and activity participation, and provide strong evidence for learning evaluation.

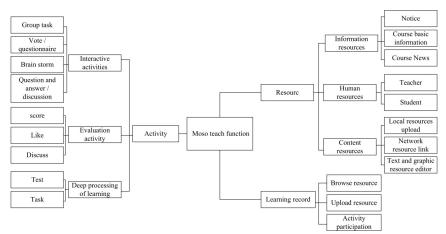


Fig.1 Moso teach functional structure

# The Design and Implementation of the Emergent Curriculum –Take "Network Application in Education" as A Case

# Front analysis of teaching

# Learner analysis

Preliminary knowledge analysis: This course is a required course for the major of educational technology in three. Learning has finished professional basic courses and elective courses, such as instructional design, computer network infrastructure, the design and production of website, video production course.

*Study condition analysis:* 32 students who take this course are equipped with notebook computer and smart phone, and can access the cloud class.

### Teaching support platform

The course teaching support platform is built based on Moso teach, as shown in the following figure. The platform supports smart phones and computer access.

# Teaching implement

These courses take the method of "teacher inspire and guide + Collaborative Knowledge Creation + systematize knowledge and skill". According to DELL's experience of the tower, teaching should start with the specific experience, but cannot stop at the specific experience, but to the abstract and the general development, to form the concept.

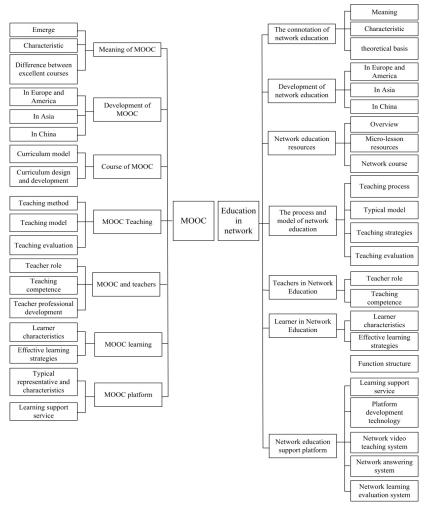


Fig.2 the corresponding theme between MOOC and network education

Analysis of teaching content and objectives "Network application in education" discusses basic concepts and basic theory of the network education, including the network education environment and resources, teaching process and pattern of network. In addition, Network education support system and technology application are discussed, such as the network curriculum, the network video teaching system, question and answering system based on network, network learning evaluation system. Through the course teaching, training students' basic literacy of network education and practice ability to organize, implement of network teaching.

The connotation, elements, laws and application modes of the network education are of the abstract experience, which is not conducive to the students' knowledge construction. MOOC is undoubtedly the most popular network education application form, with MOOC as the starting point, through the exploration of MOOC to achieve the curriculum knowledge collaborative generation, this is an ideal way. As an embodiment of the network education application form, MOOC has the elements, characteristics and rules of general network education. According to curriculum theme of "Network application in education", set up the corresponding theme about MOOC to

explore<sup>1</sup>, the corresponding relationship between them was shown in fig.2.

### Teacher inspires and guides

MOOC, as a new teaching mode, has been developed at different levels in the University. Our school began to cooperate with Chinese University MOOC, best alliance MOOC to set up elective courses from 2014. Students pass the course examination, the school admits the credit. 80.6% students taking "Network application in education" have taken MOOC, and they have a better understanding of the MOOC teaching model. Other students have some acquaintance of MOOC in other ways. It is an ideal choice with some understanding but not a deep understanding of MOOC to inspire and guide learning. In order to help students better start and work together well to construct knowledge, teachers select some of the learning resources released in the cloud classes, such as the mainstream MOOC platform, MOOC community, MOOC development review, etc.. As shown in the following figure.

### Collaborative Knowledge Creation

According to the theme of Figure 2, each subject selected 2-4 students to explore. Students explore the selected topics through the literature review, application for MOOC, discussion in the MOOC community and other ways. The students of the same topic can communicate with each other, sharing resources. In the end, the learners have to complete a report on PPT, and report to the class about the content and learning experience of the subject. Learning report was taken upin classroom. According to the report, students and teachers put forward problems and discuss. Something about Learning report and participation in discussions is often evaluated in Moso teach platform. As shown in the following figure.

## Systematize knowledge and skill

On the basis of exploring on MOOC and report on learning, the teachers take the teaching from the concrete to the general and universal. According to the corresponding relationship of Figure 2, after the students reported on a MOOC theme, the teachers systematize knowledge and skill corresponding network education application. For example, after the student reports on the "MOOC teaching", teachers will guide students to construct knowledge about the process and mode of network teaching.

# Analysis of implement effects

Through the joint efforts of all the teachers and students in one semester, the course resources that are formed in collaboration are shown in the following table. Teachers and students scored (out of 5 points) on curriculum resources generated by students, which is showed in table 1 was rated 4 points and more than the excellent rate of see table 1.

During collaborative production knowledge, the activities, which are learner to participate in, are shown as follows. Most involved three activities are: browse PPT report, discussion area, and performance in classroom.

After the end of the semester, the students were investigated in order to understand the students' learning input as well as "Moso teach" to support generative curriculum. The questionnaire object is to take the course of 31 students. 31 questionnaires were distributed, 31 questionnaires were recovered, and 29 valid questionnaires were returned.

The survey results show that all students understand the teaching objectives, in addition to the completion of their related topics, but also to participate in other topics of collaborative knowledge construction. In the course of study, 87.1% of the students expressed their recognition. About learning investment, 96.8% of the students believe that this kind of learning invest a long time than the traditional teaching outside. 89.6% learners believe that only seriously listen to other learners report, in order to join the class of the problem. Thus, this approach has been recognized by the vast majority of students, and to promote the input of student learning. In the study of curriculum resources, the 85% learners will be compared with the report content to see the relevant learning resources. 96% of the learners will look at the PowerPoint report. To a certain extent, Viewing summarized resources can save learning time, and provide learning efficiency.

About the recognition of "Moso teach" to support curriculum generation, 72% of the learners recognized way of resource organization by integration of learning content and activities. 89% the learner recognize plat form in terms of learning process record and the evaluation of the learning behavior. Of course, there are 80.1% of the students believe that the degree of openness is not enough, the students can not directly upload or link learning resources, and must participate in the activities to achieve. It is recommended to set up the "collaborative application" function, which is approved by the users who have the right to be equal to the creator.

### Summary

The design of Generative curriculum encourage the learners continue to complement and improve their own learning content, rich learning activities to realize the depth of learning through exchange and evaluation. During teaching process, fulfilmutual promotion of teaching and learning; realize the construction of resources and the accumulation of knowledge. The application and construction of knowledge are into one and change the passive mode of "building a course first, and then using the course".

The architecture model of the "content + activity + process record" can effectively support the creation of the generative curriculum.

**Table.1** Built course resources in collaboration

	Learning report PowerPoint	Reference documentation (pdf, PPT, doc)	Online graphic and information resources	Resources linked Network
Total	31	125	8	89
Favorable rate (4 and above evaluation)	90.3%	89.6%	87.5%	78.4%

"Moso teach" meets functional requirements of collaborative knowledge construction and in-depth study. Multi version design, support pc and mobile terminal, also provides a great convenience for the design and implementation of generative curriculum.

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