



Research of Online Courses Construction Based on the Theory of Interaction

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Abstract: The rise of online courses enriches the traditional curriculum elements, reconstructs the traditional curriculum model, and provides more learning channels for learners. However, the current qualities of online courses are uneven. The teaching process is still in a single direction of flow and the effectiveness of the courses can't be guaranteed. By enabling interaction can qualities of online courses be guaranteed. We should be familiar with the course content and understand the interactive characteristics and the factors affecting the interaction. Thus, we can reconstruct the course objectives, reorganize the course content, re-engineer the implementation process, reform the course evaluation, so as to ensure the meaningful interaction.

Keywords: interaction, online courses, effective teaching

1. Research background

With the rapid development of information technology, people can't live without Internet and we have entered the information society. Taking advantages of the convenience of the Internet, the online courses have enriched people's learning ways. Learning has been not confined to a specific time and place. As long as learners have the time and are willing to learn, they can use their spare time to learn online anytime and anywhere. Learning online has become an effective way for people to acquire new knowledge. However, in most online courses, students just watch the videos without in-depth exploration. Thus online is still superficial and the effectiveness of the online courses can't be guaranteed. To ensure the quality of online courses is engaging the learner in active interaction and maintaining their motivations of learning. Online courses are not designed to simply post lectures and make the learning materials available for download. The teachers should communicate and interact with learners, make use of online resources, focus on the learners' needs, design various interactive activities, and encourage the learners to participate in. It is essential to establish an interactive mode in an interactive community, so as to ensure the effectiveness of online teaching.

2. Theory of interaction

Interaction means exchanges and communication. It's originally a computer industry term. In the process of multimedia program playing, the programmer can give command to control the program. When the program receives the command, it will be executed immediately. The process of human-computer exchanges and communication is called interaction. The concept of interaction was first used in education by Moore (1989). Moore is an American educator and expert on distance learning. He thinks there are three types of interaction in the distance learning. The first type of interaction between the students and the materials they are learning. The second is teacher-student interaction, which is to communicate the learning contents and methods. The last is students interact with each other about what they learn and how they feel about.

Based on Moore's conclusion, Anderson and Garrison (2001), Canadian scholars, expand that since there is interaction between students, there is also interaction between teachers about online discussion of teaching practices, in-depth development of teaching contents and so on. Through interaction, the learning contents can be more suitable for learners and can be updated in time.

The Chinese scholar Chen Li (2004) believes that teaching interaction should be hierarchical and it can be divided into three levels: conceptual interaction, information interaction and operational interaction. Operational interaction is at the lowest while the information interaction is in the middle, which is reflected in the interaction between students and learning resources, students and teachers. Concept interaction is at the highest level. It occurs in students' thinking process and is the process of new concepts replacing old one.

According to the views of these experts, the author believes that the interactive process includes three elements: student, teacher and content. The interactive form with the three elements should be timely transformed according to the real-time

needs in the teaching process, so as to achieve effective interaction and the teaching objectives on online courses and enable students to conduct in-depth learning.

3. Online course design based on interaction theory

3.1 Analyze learning needs

When designing the online course teaching, we should first analyze the needs of the learners, which are the fundamental motivation of their learning, thus to ensure the effectiveness of the courses. The purpose of online course teaching should be to supplement and strengthen the traditional classroom teaching. Students mainly hope to promote their ability by online learning, consolidate and expand knowledge through different learning channels. They can obtain teachers' guidance through online interaction, answer questions through real-time communication, and cooperate with classmates to complete group tasks online. So, in the design of online course, it is necessary to make the course become a tool to expand and depth and breadth of learning and improve the students' senses of achievement and happiness.

3.2 Construct interactive environment

An effective online interaction environment can provide students with real-problem situations. Teachers make use of the advantages of information technology to present the task situation in front of students in a multi-modal way. In this environment, teachers and students can interact with each other to form a better understanding of the task. Teachers then analyze and decompose tasks, providing opportunities for students to accomplish the task through interactive activities, which is the focus of constructing of interactive environment.

3.3 Plan teaching contents

Teachers should carry out comprehensive scientific planning of teaching contents, make different forms of knowledge points targeted, and arrange teaching content. The teaching videos should be short and precise. Then the serialization and systematization of teaching content could be realized through the superposition of teaching videos. The content of each video is relatively independent and serves as a link between the preceding and the following, so as to help students consolidate and expand their knowledge. Strengthen "interaction" and construct communication space, which are divided into tree sections according to different functions, namely class communication, answering questions and comprehensive discussion.

3.4 Design interactive activities

Based on Chen Li's theory of online teaching hierarchy, the paper divides interactive activities into three types: interpersonal interaction, human-computer interaction and internalized interaction. These three types of interactive activities go from shallow to deep, and students can finally realize meaningful learning by participating in these activities. Interpersonal interaction refers to the communication between students, teachers and students. The teacher can answer questions, do the demonstration, assign tasks and let the students work in groups. Human-computer interaction means that the learners can operate the computer platform, which plays an intermediary role in the activity. The highest level of interaction is internalized interaction. Students construct concepts through the interaction of new and old knowledge to achieve internalization of knowledge. Teachers can design activities such as previous review, introduction of knowledge, summary of knowledge application, personal reflection, etc.

3.5 Provide learning support

Because teachers and students cannot face to face in the online courses, learning support is of significant importance. Learning support includes managerial support, coaching support and evaluation support. Among them, managerial support includes releasing teaching information, guiding students to learn and providing targeted answers to the problems fed back by students. Coaching support refers to carrying out teaching practice, establishing study groups, providing teaching materials to download, recommending relevant courses, etc. Evaluation support refers to the analysis of students' learning situation with big data, so as to find problems in time and ensure the pertinence and effectiveness of online course construction.

3.6 Establish quality assurance system

Establishing quality assurance system is beneficial to guide the online courses construction to be scientific and standardized, which is also the fundamental way to improve the quality of online courses. Supervision and evaluation should be carried out in every stage of online course construction. In the preparatory stage, the teaching team will submit the course plan to the school, and the school will organize experts to evaluate the value of academy and application of the course, then the formal construction can be carried out. In the construction stage, the team shall submit sample chapters and teaching resources to experts for review to identify problems, remedy deficiencies and adjust the direction of subsequent

course construction. Finally, teachers should optimize and improve the quality of online teaching according to the feedback.

3.7 Optimize the learning experience

Kim Jinwoo(2014), a Korean scholar, proposes that human-computer interaction should meet three conditions of user experience: effectiveness, availability and sensibility. In terms of online courses, effectiveness refers to the ability of the course to help learners achieve their learning objectives. Availability means that learners can use the course with less time and energy. Sensibility refers to the psychological state of learners when they learn the course. Therefore, the clear navigation design, specific course information, modern resource presentation, simple operation and in-depth interaction are conducive to the establishment of a pleasant learning experience.

4. Conclusion

With the help of online courses, the independent learning is supported by a wider range of resources and learners are more motivated. The construction of online courses should be based on the perspective of interaction. The adaptability and innovation of the courses should be the focuses of the attention. At the meantime, teachers should constantly improve information literacy in order to give full play to the greatest advantage of the new ear of the Network.

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