Auto Grouping and Peer Grading System in Massive Open Online Course (MOOC)

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ABSTRACT

E-learning is a progressive way of learning through online courses. Instructors pass information to learners via context and videos embedded in active webpages, so that learners intake knowledge of what they need. Now e-learning is not simply providing course materials, while the trend of Massive Open Online Courses (MOOCs) is recently applied widely, the concept of flipped classroom is well deployed everywhere. Courses are designed more practical, suitable, and problem-solving inclined. By this way, learners’ learning effectiveness and learning motivation are triggered. In this research, the authors will develop an online learning platform and improve the existing methods of peer grouping and peer assessment, to promote the concept of MOOCs.

Keywords: Auto Grouping, Auto Grouping and Peer Grading System (AGPG System), Collaborative Learning, Massive Open Online Course (MOOC), Peer Grading, Social Network

1. INTRODUCTION

With the changing technology, wide range of information is able to pass through network to the rest of the world; this has also become the important part of our life. In education, the focus on learning in physical classroom traditionally is evolving to online learning through text, audio and video due to the rapid development of e-learning.

E-learning is a way of learning through online courses. Students are free to study at any time, any place, and they are able to control their own learning progress. On the other hand, the educator can arrange multimedia teaching to give learners a better learning experience. On the rise of e-learning, along with the Flipped classroom, Massive Open Online Course (MOOC), and other innovative learning mode. Among them, MOOC has become a popular topic, it provides a large amount of online courses from the world’s top universities, to anyone at any time.

MOOC is a public online course which gathered from the famous universities all around the world. Anyone can access through MOOC

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platform like Coursera, edX and Udacity etc., this allows the students to experience all top courses at home. The purpose is to spread the various classical curriculums to the world, so that the learners can study international courses through different learning platforms.

edX was founded by the Massachusetts Institute of Technology and Harvard University, non-profit. There are currently courses including engineering, business, law and history etc. from 29 universities. edX platform has more than 2 million users, students can attend free courses from the famous schools, and at the end of the course, a certificate for completing the course may be obtained by paying some fees. Furthermore, edX is an open-source platform, source codes can be provided to developers around the world to carry out development work, and this improves the platform functionality and gives students a more high-quality e-learning environment.

Open edX is the Open Source Project released from edX which provided to the developers around the world for developments. Through the contribution of the developers, to create a new generation of network learning platform, to provide better education for students around the world. Among this, xConsortium, which consists of colleges and universities around the world, has made the major contribution for Open edX. This platform offers Studio course editing system and LMS learning management system for both educators and students. In the Studio course editing system, educators may create new courses as well as quizzes and other activities right after registration. In the LMS learning management system, students may do the courses, online discussion, peer grading, and view the learning processes. In addition, this platform collaborates with wiki, which provides a number of relevant documents allow developers to read, enabling the developers to obtain information required more easily, and socialize with other developers or team.

As mentioned above, when the traditional way of teaching changes to online learning, problems will inevitably occur. Courses in the past which is done in actual classrooms change its mode, the interaction between students or the discussion between the teacher and the students will now be done on the online discussion forum. Homework also changed from handing in paper works to commit and save homework files to server through the internet.

With MOOC promotion, there will be thousands of people participating in the same course, and problems have cropped up. In the past, class activities are often done in groups. Now, there are many different methods designed for grouping in the online courses, but, in the case of thousands of participants around the world, where their degrees also varies, how to do grouping fast and more effectively has become a challenge. On the other hand, the amount of works and papers being done is times as much as the number of participants. How to assess this amount of work with the limited number of educators, or how to do peer grading in a fair and most effective way is now a difficult problem to solve.

Therefore, this study proposed Auto Grouping and Peer Grading system (AGPG system) in MOOC, this improves the grouping and the fairness in peer grading, and hope to enhance the efficiency for learning. This study based on the relationships between the online course’s participants, we group first according to the interactions between the participants, then according to the grade of the participants. On the other side, we assured the fairness for peer grading through the relationships between the participants as well as their grades for reference. We divide the equal amount of works to be assessed per participants and hope peer grading carried out smoothly.

In the following sections, section 2 will further discuss on the learning mode on MOOC. Section 3 will describe the detail of the system and the design concept. Section 4 will demonstrate the experiment progress and the expected results. Section 5 will be the conclusion for the study.
Contextual Design of Online Learning Technologies
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