An Innovative Model of English Academic Works Collaborative Reading on Chinese EFL Graduate Students

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Abstract: English academic works reading is always difficult for Chinese graduate students. With the development of Internet technology, computer supported collaborative reading attracts more and more attention. However, current empirical research subject about collaborative reading mainly focus on primary and secondary schools, and each group is assigned to the same task with communication and interaction limited. Hence, the collaborative model above is not a good way to give full play to the effect of collaborative group. Based on the theory of collaborative knowledge building, we design an innovative English academic works reading model for graduate students and make a pilot study with Learning Cell System (LCS). The experimental results indicate that LCS could well support collaborative reading, and that students show great interest in this collaborative model. In the future, we will carry out a series of large-scale empirical researches based on this model and analyze the collaborative process to provide theoretical reference for other researchers.

Keywords: Learning Cell, Collaborative reading, Knowledge building

1. Introduction

In the age of globalization, professional literature, especially English professional literature, is an important approach to make a sense of academic development both at home and abroad. However, English professional literature reading is always very difficult for students of English as a Foreign Language (EFL). Hence, how to enhance the professional English competencies of students is significant, as good English-language reading ability improves an individual's competitive advantage (Chen et al., 2011).

With the rising popularity of Web 2.0 Internet applications and their ability to promote open collaboration and information sharing, collaborative learning through the use of the Internet and computer is now a major way to English language reading instruction (Chen et al., 2010). A case research on collaborative learning showed that learners who practiced with each other in groups demonstrated stronger cognitive development than those learning individually (Ding, 2009). Yet, Lin et al. (2014) conducted a collaborative learning study supported by Group Scribbles (GS), a networked technology, which affirmed the effectiveness of the intervention designed and showed that students' learning attitudes, motivation and interest were enhanced as well in experiment group.

Nowadays, many Chinese students and researchers are lack of confidence when facing English literature, especially those with thousands of pages. Currently in China, English academic works reading generally follows the pattern of 'individual reading and reporting', in which students themselves alone play a central role, and other students just listen and rarely make any proposal. Collaborative learning is still a mere formality in literature reading classroom. Therefore, we are considering that we could design an innovative collaborative academic works reading model with a computer-supported learning system, to facilitate the increase of cognitive engagement and reduce the sense of difficulties.

2. Literature review

English language reading is one of the four basic skills of foreign language teaching (Carroll, 1967), which widely draws the researchers' attention. Chen et al. (2014) developed a collaborative digital reading annotation system (CDRAS) to effectively reduce the reading anxiety of learners and proposed a personalized reading anxiety prediction model (PRAPM), which could be used to identify the key factors that cause reading anxiety and help instructors apply reading strategies to reduce reading anxiety and promote English-language reading performance.

Meanwhile, collaborative reading is also a popular form of English-language teaching. Kiili et al. (2012) made a study on 19 student pairs in Finland upper-secondary school (16-18 years of age). Five collaborative reading patterns (co-constructers, collaborators, blenders, individually oriented readers, and silent readers) were founded through a hierarchical cluster analysis their collaborative reading profiles. Besides, a research about 866 students in seventh-grade and eighth-grade English/language arts classes in Texas and Colorado demonstrated that significant differences was in favor of the treatment students on the Gates-MacGinitie Reading Comprehension Test but not on reading fluency, though treatment students had received a multicomponent reading comprehension instruction from their English/language arts/reading teachers for 18 weeks(Vaughn et al., 2011). Mahapatra et al. (2010) led a study on 28 readers in grade 4 and the experimental results indicated that the cognitive-based remediation program had potential for substantially improving comprehension and its underlying cognitive process among ESL (English-as-a-second-language) children. Lan et al. (2007) conducted an experiment on twenty-six third grade students with a mobile-device-supported peer-assisted learning (MPAL) system, and the detailed analysis of videotaped behavior indicated that MPAL helped improve collaboration in elementary school level EFL learners and promoted their reading motivation. Fuchs et al. (1999) examined how preparation in elaborated help giving affected students' helping behavior and learning in reading, and found that intermediate students improved more with elaborated helping, but primary students improved more without elaborated help giving. In addition, collaborative strategic reading (CSR) took advantage of the growing knowledge base and had been proved be effective in improving reading outcomes on diverse learners (Vaughn et al., 2007). And Klingner et al. (1998) investigated the effectiveness of CSR during social studies in heterogeneous Fourth-Grade classrooms, and results demonstrated that the experimental students made greater gains in reading comprehension, but equal gains in content knowledge. At the same time, some researches showed that CSR could really facilitate reading comprehension, content learning and English acquisition for students with learning disabilities or limited English proficient (Klingner & Vaughn, 1999; Kim et al., 2006).

In a word, collaborative reading or collaborative strategic reading (CSR) could urge the interaction between group members, and improve students' reading performance and comprehension. With the development of technology, more and more web-platforms or application tools are used to support collaborative reading activities, such as wiki system (Chang, 2009; Kimmerle et al., 2011; Moskaliuk et al., 2012) and knowledge forum (Zhao & Chan, 2014; Hong, 2014; Hong et al., 2014). Although collaborative reading is popular in primary and secondary school, we could rarely look for any research on graduate students about academic works collaborative reading with those new technologies and platforms.

3. Collaborative reading model design and application

Based on the literature review above, we could find that both experimental and control group will always read the same material, and members from other group will never make any contribution to the finished task in traditional collaborative reading organization. In other words, all the groups respectively do their teamwork without interaction among groups. However, from the perspective of knowledge building, learning is embedded in social interaction (Meyer, 2010) and knowledge is socially constructed (Scardamalia & Bereiter, 2006). Therefore, we need to design an innovative model to promote the interaction among groups. In this study, we use the Learning Cell System (LCS, http://lcell.bnu.edu.cn/), which is the support platform of Learning Cell (Yu et al., 2015), to develop an innovative English academic works collaborative reading practice on doctoral candidates of educational technology major in China.

3.1 Learning Cell System

Currently, LCS contains six function modules: LCell, KGroup, KCloud, Community, Tool and Template. LCell is the basic information organization unit in platform. There are some distinguishing functions in LCS like resource organization and management based on ontology, open content editing, learning resources' adaptive rendering in multiple terminals, dynamically generating social cognitive network and resources share, semantic association and personalized learning evaluation based on learning process (Yang et al., 2013).

In addition, LCS provides some pertinent functions to support the collaborative learning. One is the integration of learning activities and learning content. Up to now, LCS offers sixteen learning activities which can be integrated with different kinds of learning content, such as digital document (PPT, word, pdf), audio and video, image and text. The other is collaborative editing and notation of learning content and activity. It allows both teacher (who creates resource) and learner (who studies resource) to co-edit and co-notate the resource, and roles can be exchanged freely between teacher and student. Modifications will not be accepted totally, which is determined by the semantic gene behind the resources and the credibility of reviser. Both those accepted information and learning process information will enrich the content of LCell, and then LCell will evolve into a new version.

3.2 Collaborative reading model design

Collaborative reading model includes four steps: self-directed reading, micro-course designing, peer coaching, learning process data acquisition and evaluation, referring to Figure 1. At the beginning of collaborative reading, the teaching assistant randomly allocates reading material to students (each student as one group) and makes an operation training of LCS. The reading material is Handbook of Research on Educational Communications and Technology in English published by Springer. It has 1005 pages and contains nine sections, which are Foundations, Methods, Assessment and Evaluation, General Instructional Strategies, Domain-Specific Strategies and Models, Design, Planning, and Implementation, Emerging Technologies, Technology Integration, and A Look Forward. Without Chinese version at that time, it is impossible for Chinese students to read the whole handbook by themselves throughout one semester. Hence, we explore this innovative collaborative reading model to help students understand the whole handbook and reduce their anxiety.

In self-directed reading stage, each student needs to review academic work carefully and take some notes for video recording. If the academic work is not described clearly or is difficult to understand, students are required to look for some related literature, such as online resource and video, to help others comprehend. Those related literature will also be present in online micro-course as supplement. Then, main idea of academic work will be record into a video with recording software, just like Camtasia Studio or SnagIt.

In the second stage of micro-course designing, each student will design a micro-course for every chapter with LCS. Those micro-courses contain entire teaching structure, including micro digital resource, learning activity, learning evaluation and course certification (Yu & Chen, 2014). The micro video recorded in the first stage is used as main content of micro course. Creator can be free to choose the type of learning activities, for instance online forum, discussion, debating, reflection, practice and test. The designed learning activity is pertinent to the course content and could promote the learning engagement. In addition, we will set an evaluation scheme for every micro-course to identify the students' learning level.

In peer coaching stage, all the students are required to learn peer's micro-courses and make contribution to them. During learning process, learners could edit, make comments and remark on content, add extra digital resource, and give a readjustment of learning sequence and learning activity. Meanwhile, learners could send a collaborative application to the creator. Once the application is passed, the learner will be granted supervise authority just the same as creator. The whole process data will be collected by LCS automatically and utilized for final learning evaluation.

In the fourth stage of learning process data acquisition and evaluation, every student has to make a presentation at least once, besides the online learning with computer and mobile device. And course teacher will give a feedback and score according to their performance. The final grade consists of two parts, one is the presentation score, the other is calculated based on evaluation scheme and

process data. In accordance with peer's learning feedback, the creator of micro-course will make some revisions to promote the course quality, which will urge peer to have a deep learning in turn. Through those four steps, the micro-course about academic work will evolve with the learning process data augment, containing the wisdom of both teacher (creator) and learner (peer).
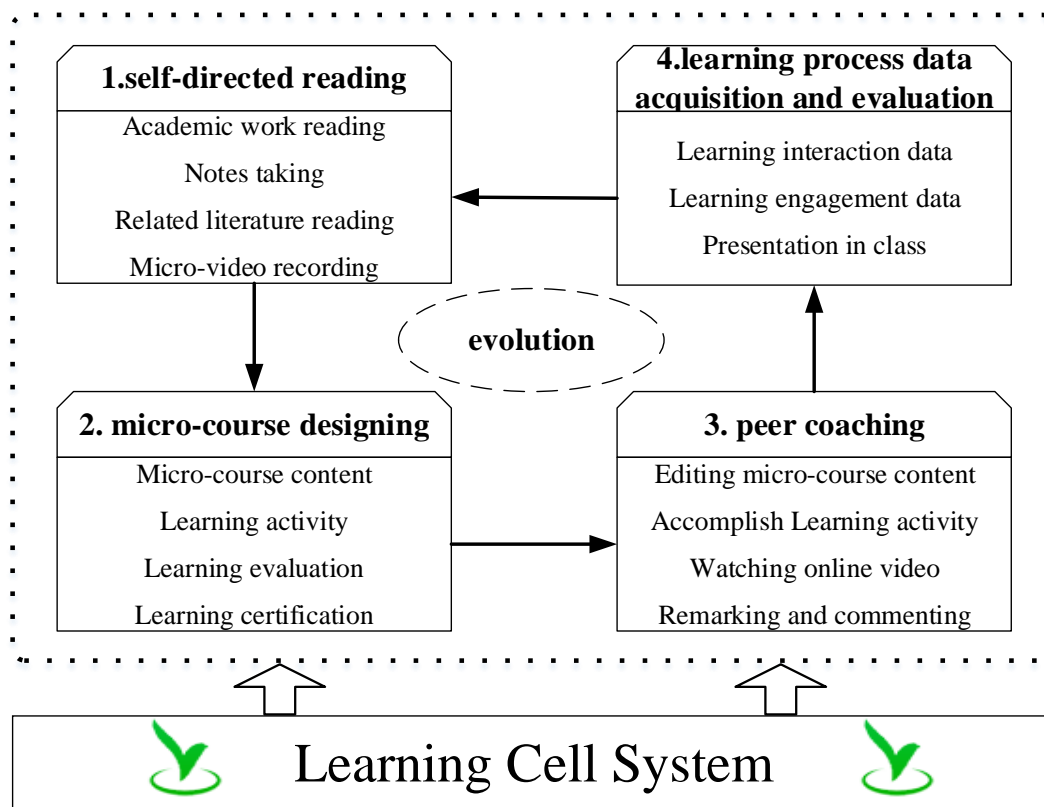
Figure 1. Collaborative reading model based on LCS

3.3 Implementation effect and discussion

To testify the effect of this model, we make a pilot study on 13 graduate students in Beijing Normal University. After a semester, those students finish reading the Handbook of Research on Educational Communications and Technology (4th edition), and generate one knowledge group (http://lcell.bnu.edu.cn/lc/lc_index.jsp?id=11276&courseId=122982) with 74 LCells (one sample of those LCells referring to Figure 2). At the end of semester, we make a questionnaire investigation with 17 objective items and 4 subject items about this organization way and LCS. In satisfaction dimension, there are 7 items which are modified from Chu et al (2010). Other items, which are about LCS functions dimension, personal engagement dimension and open subject questions, are created by ourselves. The survey result and discussion are as follows.

The mean value of satisfaction is 3.8(1 stands for not at all, 5 stands for highly), which implies that students are relatively satisfied with this innovative English academic works collaborative reading model. In LCS functions dimension, learning activities, learning time recording and making comments are the three most popular function. 84.6% of the students would choose performance of learning activities as part of the evaluative scheme. During learning process, each of the participants will spend a lot of time watching the micro video about academic works, and then check the evaluation score frequently to review their own learning progress. The unique functions, like learning content integration with learning activities, open collaborative edition and notation of learning content and activity, and evaluation based on learning process date, attract the most attention from students. Moreover, students reflect that this collaborative reading model will enlarge their literature reading quantity and promote their deep learning, and hope to take this way in later study. On the basis of the historical version of micro-course and peer notation records, we find that students not only learn peer's micro course but also provide some suggestions for improvement and related learning resources.

Apart from those exciting effect above, a few students complain that the learning task is too heavy, because each student need to read 5 or 6 chapter of the handbook by themselves, and record a micro video for every chapter. Making a micro course of one chapter entirely will cost them more than one day. And, studying each micro-course made by peers will probably cost them at least two hours to get a satisfying grade. Although it maybe promote the learning engagement at a certain extent, the task is really too heavy for them to finish this study in a short semester. At the same time, some students propose that we should provide the standard of the micro video, because a few videos are too simple to convey the idea of academic work. These questions are in need of consideration before large-scale trial.

Figure 2. A micro course of section III chapter 24

4. Future work

As we can see from the literature review, it usually does not exist any interaction among those collaborative reading groups and the research subject mainly focus on junior or senior school, hardly about graduate students. And English academic works reading has become a common problem to Chinese students. Thus, based on the collaborative knowledge construction theory, we design an innovative English academic works collaborative reading model on graduate students with LCS, which encourages the collaboration and interaction among groups. And learning outcome of different group can be evolved and integrated into one whole course.

Although some problems appear during preliminary trials, we still have some interesting findings. In the future, we would like to develop some quasi-experiments and make sequential analysis of the collaborative behavior among group with large-scale sample to testify whether this model could promote the willing of positive sharing or not.

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