ISSN : 0974 - 7435 Volume 10 Issue 18

2014

BioTechnology

An Indian Journal

FULL PAPER

BTAIJ, 10(18), 2014 [10051-10055]

Pondering on online learning supported by intelligent network system from the perspective of learners- A case study of Peking University summer school 2013

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ABSTRACT

"Summer School" originated in Harvard University, which aims to meet the learning demands of students as well as thelifelong learning needs. Peking University was the first to run a "Summer School" in China. On July 6, 2013, Peking University Graduate School of Education's "New Media and Learning" summer school officially commenced, the online courselearning via intelligent network system platformadopted a variety of ways of learning such as lectures, expert talks, group activities and seminars, so that learners can learn about the forefront academic advances and the latest research achievements in educational technology profession. Under the support of online course, the author, as one of the online students, has personally experienced the learning of new technologies and knowledge. This paper aims to experience online learning and ponder on existing problems from learners' perspective, with the intention of enhancing the quality of online learning.

KEYWORDS

New media; Online learning;learners' perspective; Summer school.

INTRODUCTION

"Summer School" originated in Harvard University, which aims to meet the learning demands of students as well as the lifelong learning needs. In China, some of the "Project 211" universities have also begun to establish summer schools, such as Peking University. In 2004,Peking University took the lead in opening a summer school;taking the Peking University Summer School 2013 as an example,a total of 122 courses were offered, which were classified into four categories (A, B, C and Summer School International program). Category A opened only to the on-campus students; category B was featured courses, which opened to all learners; category C was mini classes, foreign language courses and senior lecture courses, which were targeted mainly at off-campus learners; while Summer School International program was featured courses of various academic fields (taught in English), which catered mainly to foreign students. This paper only takes the Peking University Graduate School of Education's Summer School 2013 as a case study, which is intended to analyze the current situation of online learning in China from the learners' perspective.

ANALYSIS OF LEARNERS

Learner characteristic analysis includes learners' initial competence, general characteristics and learning style[1]. According to the group mail sent by the Peking University Graduate School of Education's Summer School (hereinafter referred to as Summer School) on June 4, 2013, total number of students was 501, of which 173 were face-to-face students, and 312 were online students (their proportions are shown in Figure 1). Learners of Summer School 2013were mainly young university teachers, graduate students, and outstanding undergraduates, so the learners of that Summer School session had the following three characteristics: (1) Relatively high professional quality, and relatively high initial competence. As young university teachers, graduate students and outstanding senior undergraduates, they possessed the most basic professional quality, and relatively good reception of new knowledge; (2) Strong self-learning ability, and high learning motivation. The general characteristics of the Summer School learnersincluded professional maturity, clear learning goals, independent thinking ability and fluent basic network operation skills[2]. The majority of learners of that session attended the Summer School for interests, expanding mind, and improving academic skills.

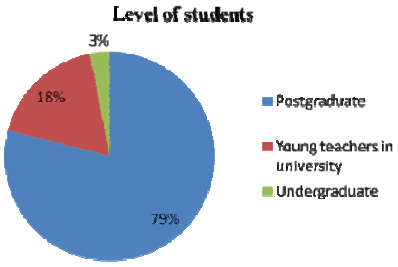

Figure 1

THEORETICAL BASIS —— ZONE OF PROXIMAL DEVELOPMENT THEORY

"Zone of proximal development theory" was proposed by Lev Vygotsky, "education can play a leading and promoting role in child development, but the determination of two levels of child developmentis needed: one is the level of development that has been reached; and the other is the level of development that children may reach, which is manifested as 'the child cannot yet complete the tasks independently, but with the help of an adult, he or she is able to complete these tasks by imitation in collective activities'. The distance between these two levels is just the 'zone of proximal development'[3]." Peking University Summer School 2013 was themed by "New Media and Learning", which was aimed to transmit the latest advances in educational technology profession at home and abroad. Learners were mainly graduate students, whose professional foundation has reached the level of development even though the courses were not their own research directions; through course studies and group activities, the growth of their professional knowledge analyzing and researching abilities was obvious.

ONLINE LEARNING PLATFORM SUPPORTED BY INTELLIGENT NETWORK SYSTEM

Intelligent network system

Intelligent network system integrates various databases (MSSQL, Oracle, MySQL, SQLite, ACCESS, XML, etc.), and uses artificial intelligence technology, which has relatively strong intelligence, interactivity and adaptability. It can solve the individualized online learning problems, and improve the teaching system's adaptability and relevance to students. To enhance the individualized teaching of the teaching system, many foreign scholars have put forward a number of different solutions for individualized teaching, such asbuilding of student model using Bayesian network, making of inferences using information feedback during the teaching process, and prediction of students' next step behavior[4].

Features

Calendar-type form of learning

The Summer School useda "Calendar" form as navigation, so as to enhance online students' learning purposefulness and sense of presence. Even though the students missed classes, theywere able to find the classes by datesand make up for them.

Group collaboration

Theme was set in the form of groups; team members made discussions and completed related tasks with the aid of network media. Individuals (students) in group collaborative activities could share the information and learning materials explored and found during the learning process with other members of the group, and even with other groups or the whole class. In collaborative learning, collaborative work among team members is an important part of achieving learning objectives, on the one hand, students study independently, and on the other hand, they interact with other students, so as to accomplish common learning tasks. Personal success in learning is closely linked to successful learning of others; learners maintain harmonious relationships with each other, collaborative attitudes, information resource sharing spirit and common learning tasks.

ANALYSIS OF LEARNING FROM LEARNERS' PERSPECTIVE

Platform-based blended learning

Professor He Kekang once mentioned in the "New Advances in Educational Technology Theories from the Perspective of Blending Learning" that the so-called blended learning combines the advantages of the traditional ways of learning and E-learning, that is, it should not only exert teachers' leading role in guidance, inspiration and monitoring of teaching process, but should also fully embody the initiative, enthusiasm and creativity of students who are the subject of learning process[5]. Singh & Reed proposed the blended learning; blended learning (B-learning) is an approach of learning where"appropriate" ability is passed to "appropriate" learners in the "appropriate" time through the application of "appropriate" learning technologies and "appropriate" learning styles, thereby obtaining optimal learning outcomes. Summer School's B-learning approach (learning platform is shown in Figure 2), which takes advantage of the popularity of the Internet and development of E-learning, combines the advantages of traditional learning methods, gathers excellent resources and students' positive initiative, had significant effects. The blend of classroom teaching and online learningcan give full play tothe lecture-based teaching mode, which not only reflects the leading role of teachers but can also highlight the subject status of students, so that students can actively inquire and learn under the guidance and help of teachers. Group learning can deepen the relationships between members; interaction between "teachers and students" and "students and students", and interaction via forums, e-mail, chat tools, etc. While actively and effectively promoting teacher-student exchange and group discussion in traditional classrooms, teacher-student interactions by way of online teaching forums, online Q & A, onlineassignment submission, exchange mailbox and the like should be strengthened; the diversified forms of synchronous, asynchronous interactions can well help students overcome learning barriers in terms of psychology, motivation and control power in E-learning and traditional learning, thus effectively improving students' learning outcomes.

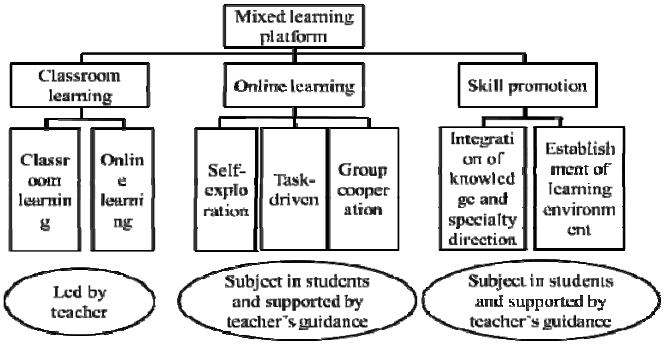

Figure 2

Learning procedures

Summer School adopted learning procedures of courseware learning (material preview) —— sign in (sign out) —— live broadcast (online students) —— questions for discussion —— online test (online assignments) —— course assessment (thesis + attendance + everyday performance (personal) + group collaboration (inter-assessment among group members)); overall, the design of the teaching procedures is humane. In June, the Summer School informed every student to log in the website, repeatedly test whether the site performance was stable, and get familiar with the page settings in advance, thereby effectively promoting the correspondence between learners and the system, and strengthening the interaction between the learners and the learning content; open platform allowed sharing of learning materials, videos were broadcast synchronously, and corresponding QQ group was established. During online learning, live video broadcast and discussion were done

simultaneously, in order to achieve the interaction between online learners and face-to-face learners, and between learners and resources. Most online students attended the Summer School for the first time,whotruly experienced the advantages and disadvantages of online learning, facilitating the future application in learning and work.

Learning outcomes

Henri proposed an analytical model for the evaluation of learning outcomes in E-learning environment;he divided the status of students' participation under the network environment into five dimensions: participation, interaction, social, metacognition and cognition[6]. On that basis, FatosXhafa et al[7]. gave a comprehensive evaluation on learning outcomes from four aspects, namely students' task performance, group performance, exchange status and team assistance. There were 500 students who attended the Summer School 2013;the author, as an online distance student, investigated the learning outcomes through the group interviews and questionnaire distribution via email.59 questionnaires were received, accounting for 10% of total students; among them, 56 were graduate students, 2 were young university teachers and 1 undergraduate student; 39 were online students, and 20 were face-to-face students; the survey results can only be used as a reference case. Survey content was mainly the self-assessment of distance learningoutcomes; the questionnaire contained a total of 24 questions in three aspects: attitudes, knowledge and abilities[7]. Each item was scored 1 point if answered "Yes", and not scored if answered "No";the final score was categorized into five ranges, namely 0~5 points, 6~10 points, 10~15 points, 16~20 points and 21~24 points, the higher the score, the better the leaning outcomes.

(1) Comparative analysis. Among various score ranges, 11~15 points and 16~20 points were the most populated ones (TABLE 1), which indicates relatively good learning outcomes; face-to-face students had slightly higher average score than the online students, suggesting that face-to-face learning had better outcomes. Undergraduate students and young university teachers mostly fell in the range of 11~15 points. The author believes that the undergraduate student had basic professional knowledge and theoretical analysis ability that were to be improved, who faced learning difficulties. Young university teachers (both online students) had factors interfering learning such as job and family. In the 16~20 score range, the number of graduate students

TABLE 1 : Statistics of self-assessment of distance learning outcomes

Score Level	0~5 points	6~10 points	10~15 points	16~20 points	21~24 points
Undergraduate student			1		
Graduate student	1	7	10	29	9
Young university teacher			1	1	

(2) Descriptive analysis. In statistics, the greater the mean of each question item, the greater the number of respondentsanswered "Yes" to the item, and the stronger the overall awareness or ability of the respondents in this regard. The mean value for the question "Whether the courses are scheduled tightly" was 0.953, indicating that the learners felt the curriculum was "tight", withlack of time for deepened thinking during the learning process. As to the statistics of "Purposes for attending Summer School", the mean value for "To understand the forefront professional advances at home and abroad" reached 0.75, indicating that the majority of learners felt "unable to keep in contact with" the professional frontier.

Reflections on online learning

The problems of continuing education of young teachers and thinking enhancement of graduate studentsaddressed by the Summer Schoolpossess the most basic professional skills in terms of level of knowledge, while lackingpracticalness and foresight.

Emphasis on practice

Teacher Wang Lu's lecture "Development of Educational Technology and Changes in Teachers' Educational Training Modes" (Figure 2) On July 15 was taken as an example; teachers online communities of practice (COP)[8]. During the lecture, a large number of living examples demonstrated that teachers enhanced professional development and educational informationization using COP communities; through the COP communities, geographical problems were solved, providing a platform for teachers and students of the same direction to pursuedistance learning, and enhancing the professional development of teachers. Chinese teachers' COP communities have been initiated for more than ten years, but most online learners (students, young teachers) have never heard of them, who detached from practice.

Dissemination of frontier disciplinary knowledge

The theme of the Summer School 2013 was "New Media and Learning." New media emphasized the application of new media in learning. Updated vision and broadenedsphere havemore important significance to local colleges where news travel relatively slowly.

Qualityof group collaborative learning needs to be improved

Although online learning is in full swing, students mostlyleave and post messages onQQ group, website and BBS (one of the conditions for completion of Summer School courses) in order to complete the task,BBS posts were seldom replied,and QQ group discussions often digressed from the subject, lackingin-depth collision of thoughts.

Adjustment of curriculum schedule

Summer School curriculum was scheduled too tightly, where teachingwas carried out concentratedly in a lecture-based form. Such substantial, high-intensity mode of learning can easily consume thestudents'energy and stamina. The author believes that the Summer School is not suitable for the learners belowuniversity level (including the initial stage of university). There were classeseveryday, as well as assignments and theses;the author found during QQ groupchat that in order to save time, many learners had to do their homework during lectures.

PROMOTE PROFESSIONAL INTEGRATION AND DEVELOPMENT OF LOCAL COLLEGES

Promote the professional integration of educational technology

Whether it is educational technology graduate students or young teachers, they feel some degree of "professional loneliness" in their respective schoolsdue toreasons such as profession and number of students. 501 learners of the Summer School came from various universities nationwide (mostly majored in educational technology), so various ideas, research, and ways of thinking intersected in the classrooms, website BBS, blogs and QQ group. During the studies, QQ group recorded over 3,000 messages/day, which was a highly active group; and BBS initiated over 50 topics each lesson.

Enhance young teachers' professionalism, and promote educational reform in local colleges

Despite the developed network communications today, the professional information, academic conferences and the like online are still "bits and pieces". Besides, someprofessional knowledge cannot be shared due to copyright issues. As the author's university is a second-level undergraduate university, its academic information is relatively lagged compared with Beijing and Shanghai regions. Peking University Summer School's online learning solves the geographical issue of local teachers. As a famous Chineseuniversity, it presents new ways of learning and thinking,expands the horizons of young teachers, broadens the knowledge domain, and achieves "live and learn."

In general,teachers of local normal universities have good professional developmentprospects, but are biased toward theorization overall. Local normal universities have been dealing with education;students they cultivated are also primary and secondary school teachers, whose professional development can be practical and targeted rather than theoretical only throughfrequent first line contact with primary and secondary schools, and grasp of first line information. Offering of Summer School has provided an opportunity for young teachers of local institutions to closely contact with Peking University;whether it is Peking University Spirit or professional educational technology knowledge, for local institutions, this is a valuable opportunity. Through this study, the learners have learned about the media's "newness" and "application" of learning, and expanded and updated their horizons, which is an improving process. This opportunity is beneficial to the professional development of teachers; and thetraining of teachers' research capacity has been quite a success. This is the first real experience of online learning, which is considerably beneficial to the conduct of this year'swork. The entire process, regardless of learning modes, group learning forms, or evaluation forms,is all worth for reference by local colleges.

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