

Research on Exploring of the Teachers Support Service Strategy in Distance Education Based on Information System

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Abstract. Guided by the principles of Constructivism learning theory and hardware and software systems of distance education, this paper explores teacher support service strategy in open and distance education (ODE). In ODE, learners, for most of the time, learn by themselves since they are the active constructors of knowledge and meaning. Through exploring China's practice in ODE, it firstly proposes that teachers should develop an idea that the product of education is not students, but the service for the students. Then it offers suggestions as follows. Teachers should provide learning materials, which is the object of meaning construction; then teachers should present all kinds of media required for the learners to process the learning materials and achieve their learning targets. These media serve as the tools for meaning construction and knowledge creation. Teachers should collect and optimize all kinds of teaching resources so as to adapt them to their own teaching practice. It is suggested that a scientific assessment system should be established and strengthened in order to evaluate the effect of teacher support service. At last, it puts forward some problems to be further studied, such as the combination of specific subjects and teacher support service, the effects of sociological factors and psychological factors on the effectiveness of teacher support service, and China's theoretical study of learning support etc.

Keywords: open and distance education; information system ; support service

1. Introduction

Information technology is one of the greatest achievements in scientific research today, the development of information technology makes their application has been extensive and in-depth into various fields of social life. At the time, the development of education was also brought about a huge influence. The uses of information technology to promote changes of teaching methods and training of creative talents, it is an important issue in the education science's field. Network education information system was appear in this background. In recent years, the topic of study website has developed rapidly in China, and gradually entered the area of people's attention focused. However, the existing information systems in modern distance education study results showed that: At present the majority of distance education information system concerned only with knowledge of the multimedia network characterization

Distance education will gain success through constructing learning support service perfectly, the quality of distance education is affected directly by learning support service, which construct function perfectly is or not. The quality standard of modern distance education has its unique intension, which is different from traditional education. Firstly from demand satisfaction, learners of distance education will be developed in all kinds of aspects. On this basis, distance education should meet individual demand of learners. Secondly, from cultivation target, cultivation target is starting point and aim of distance education, the quality of distance education is guided by cultivation target. Thirdly, from quality standards, standards for the quality of distance education are criterion and basis, quality standards is basis of assessment and monitoring. Finally, from

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dynamic change, the quality of distance education is not static, but it continually develop and mutative. With the development of distance education, the requirement of distance education quality becomes higher and higher. Construction of learning support and service must be understood on this basis, insight into intension of distance education, grasp denotative of distance education, which promotes quality of distance education to improve. Instructors provide learning supports service for learners and solve the embarrassment of teacher—student separating. This topic is exploring of the teachers support service strategy in distance open education basis on Constructivism learning theory.

2. Theoretical Foundation of the Research

Constructivism learning theory believes that study is a procedure in which learner processed new information and construct meaning on the basis of existing knowledge and experience. Constructivist learning theories will throw hints on study of adult. Learners are mainly adults in distance education, constructivism learning theory take important role in adult study. From the view of constructivism learning theory, constructivism teaching mode emphasize regarding student as the center, and treat student as the perception's corpus, and is the active construction of the knowledge meaning, teacher rise the help with promote the function to the student's meaning construction. However, the teaching under the constructivism environment differs from the traditional teaching. It is under the instruction of constructivism theory and centers on the students. Constructivism learning theory advocates learning-centered thoughts in teaching, which exerts strong influence on instructional design. The strategy of the teachers support service must apply constructivism learning theory, center on the learners; learning with personality, the students-oriented teaching method in this strategy.

3. Hardware and Software Systems of Distance Education

The hardware system of distance education. The material base supporting a network teaching system is a computer network, typically a network center. The network center varies a lot in its organizational structures with many factors, such as the number and the range of students it supports, the way students access the network etc. But in general, it has the following modules: access module (phone dialing and Internet access), switching module, server module, network management and billing module, and courseware development module and two-way interactive synchronous teaching module.

The software system of distance education. A complete Internet-based teaching system not only needs the support of the system software, such as network operating system, WEB server, FTP server, etc., but also needs some specialized software applications to support teaching.

Hypermedia learning system. Adaptive hypermedia teaching refers to a dynamic presentation of the basic hypermedia-based teaching contents at a same level with the current learning ability of learners according to the learners' individual ability characteristics.

Multimedia teaching system. Streaming media-based teaching and learning system, from the perspective of media functions, can be divided into two parts: a courseware on-demand system and a simulcast delivery system.

Tools for teacher-student Interaction. In order to effectively support the communication between teachers and students who are separate from each other, remote communication tools should not only provide the traditional text-based communication, but also provide multimedia support including graphics, audio, video etc.

Examination and assessment system. With the help of computer and Internet, remote examinations are superior to the traditional examinations in many ways. Remote examination system has the advantages of high speed and high efficiency; with the Internet, examinations break down geographical and time constraints; the use of the remote examination system can carry out the analysis of the examination results more effectively.

Teaching resource bank management system. The major function of the resource bank system is to collect, manage, retrieve and utilize a variety of teaching resources. It consists of two parts: CAI software library and learning resource bank. The backstage management software of learning resource bank is a server-side management software. The server-side management software is responsible for the management and

maintenance of the whole learning resource bank, while at the same time providing interface between the bank and the client-side browsers.

Automatic answering system. Automatic answering system is an adaptive knowledge base system, which includes automatic answering and manual answering. As more and more questions and answers stored in the database of the answering system, it becomes a useful resource in the teaching process. Another important part of the answering system is to provide a wide range of query functions for students and teachers.

Assignment marking system. It is a collaborative assignment marking system based on the WWW. Students can submit their assignments to the system, obtain feedback, modify and edit their assignments according to teachers' recommendations.

Network courseware authoring system. The system has the basic integrated functions of multimedia and can create a basic HTML page. It also has the functions of supporting courseware authoring, material library management. It provides a theoretical guide for instructional design and has a large number of courseware authoring templates.

Teaching management system. Distance teaching system will cover most aspects of teaching activities and various other activities during the whole process from student's admission to graduation. Its management objects are not just management agencies and administrative departments, but include all the objects resources involved in teaching, such as students, teachers, courseware etc.

WEB-Based virtual laboratory. It is a visualized three-dimensional environment created in the WEB. Each of the visualized three-dimensional object in it represents a experimental subject. By a mouse click and drag operation, the user can perform virtual experiments. Virtual experimental environment can design subject-specific experimental environments, such as different environments for physics experiment, chemistry experiment and experiment on computer organization etc.

4. Teacher Support Service Strategy in Distance Education

Teachers should build an educational and teaching idea: education production is not student, education products is service which is provided by teacher. The mergence of traditional education and modern distance education integrate fine teaching resource, design distance education course by information technology in order to service learners. Providing platform for students' diversified independent learning via the application of modern educational technology, learners' individual Autonomous Study makes students immerse in the learning process and become the master of learning. Importantly, the development of distance education needs not only a complete system of hardware, but also a perfect learning support service system to create a good learning environment. So teacher should build educational and teaching idea: education production is not student, education products is service which is provided by teacher. Teacher should strengthen the construction of teaching resources; crystallize the main teaching contents of teachers.

Students are familiar with teaching model of distance education, converting education concept and setting up a new learning model. Students establish consciousness, habit and ability of autonomous learning; they get done with preparation next study. It is basic link of teaching model of distance education. In comparison to receiving based learning method, this technique is more focus on cultivation of students' exploration spirit and innovation capability during the process of acquiring knowledge. Tutorship, it guides students to study independently and appears with teaching. Homework and exercise, accomplishing necessary exercise urge students understand and digest knowledge, it is a guidance means which can stimulate innovation ability, it is an effective way of strengthening the teaching sectors to improve the teaching quality, strengthening process control and effective teaching. Consultation and question answering, it exits all procedure of learning. Besides the question of study, there are metal aspect answers. In distance education humane environment's constructing and education of sentiment are congenital deficiencies, so counseling could not be ignored simulation and strengthening. It is content of learning support service and before examination; it is a concentration training of curriculum complete examination. Through the simulation, it can strengthen learn study, decrease burden of learners before examination. Feedback after examination. After examination, examination grade will be feedback to learner themselves, teacher help learner analyze the result, then teacher

guide learner to make next study plan. Teaching practice. Teacher should strengthen practice; cultivate students' competence and better teaching quality, especially reinforcing the educational of thesis.

Teachers, driven by their teaching needs, should make full use of various teaching means, especially multi-media means based on technologies, to fulfill their teaching tasks.

Face -to-face Tuition is a means of service which is provided for learners. Learners can form different learning groups based on the locations of their home and regions. They can take part in the face-to-face tuition at a local branch campus. The tutorials are offered at some fixed times at these local study centers. Generally speaking, tutors do not explain the textbooks to every last detail. Instead, they focus on explaining focal and difficult points and answer learners' questions, which is the major task of the tutorials. In addition to that, face-to-face tutorials provide opportunities for students to have emotional communications, which is an important incentive factor in primarily autonomous study. Letters used to be a common contact way between learners and teachers in the first and second generation of open and distance education. Learners write letters to ask questions, and teachers replied to the questions through the letters. In a sound learning support service system, learners can utilize telephones to communicate with teachers. Telephone communication saves the travel time of the students and also overcomes the disadvantages of the synchronization of the interaction between learners and teachers in letter communication. For communication between heterogeneous conference systems, it is important to build a conference control protocol independent from signaling protocols. Different local learners take part in activities through audio conference system at the same time. Now video conferencing systems have already been applied to the practice in distance education. Teachers can utilize them to explain the major knowledge. E-Mail is a mail information system which is based on computer network. With the popularity of Internet and its application in teaching, students can not only interact with information resources through man-machine communication way and online course, but also make dialogue with teachers through mail, voice mail and video conference system or cooperate in studying online with other students through groupware.

Teachers should strengthen an integrative design for each course according to different courses' features and specific requirements. The construction of a learning support service system in open and distance education should vary according time, space and people.

Teacher should integrate global design the teaching in the class and organize the practice according to the characteristics of this course so as to improve the level and effect of the teaching. In learning support service system design integration of curriculum is an important part of distance education. The construction and improvement of learning support service system is an urgent task distance education is confronted with. Teacher strengthens course integration design, which conduces to plan learner's learning process. Especially learner who is distance education, in process of study, there is not teacher's supervision timely, only do that, learner will not be disorder or eyeless. To help learner plan personally learn and supervise, which is one of important content in learning support service system.

Teacher should pay attention to the actual effect of learning support service in distance education, in order to achieve the aim, an assessment system should be established including strengthening formative evaluation, overall learning evaluation, applying vivid and diverse examination method--- examination networked.

5. Some Problems to be Further Studied

The research on strategy of learning support service in distance education will embed different subject and different professional; the research should combine characteristics of professional and subject, which is comparatively weak at present.

The reform of teaching model is the core for reforming talent fostering model in distance education, the education concept should be reconsidered Then the roles of the teacher and the roles of the student should also be transformed, and the face to face teaching pattern should be reformed so as to adequately embody the idea of taking students' learning as the center Meanwhile, the quality control of learning process and student support service should be enhanced. Some learners grasp interactive essential operation skill, but they do not apply these skill, that we should research deeply on pedagogy sociology and psychology.

Studies of theory and practice of the learning support service in China are comparatively unheeded. we should strengthen research theory of the learning support service, especially development stratagem research.

Education of the modern network information system development and application, focused on the exploration of student's comprehensive ability to improve an effective way. The modern network information system of education to online education information systems at the core of resources for processing and finishing, build a "web-based collaborative learning community topic resources." Resources as the main building and the activities of the students combined practice in teaching and learning resources development and improvement of library resources to allow students to participate in building the education system and the remote network is a major feature of the site.

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