RESEARCH ON THE FRAMEWORK OF MODERN DISTANCE EDUCATION KNOWLEDGE MANAGEMENT SYSTEM BASED ON KNOWLEDGE CHAIN

Guru Strakova

University of Southampton, Highfield, Southampton SO17 1BJ, UK.

Abstract: Knowledge management is applied to modern distance education and has become an indispensable management model for the healthy operation of its education system. Currently, knowledge management research presents The situation is complicated and the theoretical systems and views are also different. In order to overcome the shortcomings of too broad research on knowledge management, people have put forward the concept of knowledge chain. concepts, and attribute the core of knowledge management to the management of knowledge chains. This article uses the knowledge chain model as a framework to study knowledge management in distance education. Based on the understanding of the original knowledge chain, a new knowledge chain model was established and the current situation of knowledge management in modern distance education was analyzed. On this basis, proposed the modern far Programming education knowledge management system framework.

Keywords: Knowledge management; Modern distance education; Knowledge chain; Framework

1. KNOWLEDGE CHAIN MODEL

The rapid development of modern information technology has laid the foundation for online teaching It also promotes the development of distance education. However, in the field of distance education In the field, there are two trends that influence each other and are contradictory: on the one hand Information and knowledge on the Internet continue to multiply, and the content continues to increase, resulting in information Too much information leads to the phenomenon of "information smoke"; on the other hand, learners need What is needed is not just vast information, what is more needed is refined knowledge knowledge. Knowledge management is an effective way to resolve the above contradictions. Knowledge management It should be used in distance education, which is helpful to tap the existing knowledge among teachers, students or organizations. Tacit knowledge rich in value and creativity promotes the dissemination and exchange of knowledge flow, realize the sharing and utilization of knowledge and information resources, and become a modern remote. It is an indispensable management model for the healthy operation of the engineering education system.

At present, knowledge management research presents a complicated situation, and theoretical Different systems and opinions, To overcome knowledge management research that is too broad In order to solve the shortcomings, people put forward the concept of knowledge chain and put the concept of knowledge management into the core belongs to the management of knowledge chain. Based on this, this article uses the knowledge chain model to Research on knowledge management in distance education using the model-based framework.

1.1 General Model of Knowledge Chain

The general model of knowledge chain considers that knowledge chain is a kind of knowledge chain. In this chain-shaped network, knowledge inside and outside the organization is selected, Absorb, organize, transform and innovate, forming an infinite cycle flow process. This view mainly focuses on the process of internal knowledge from capture to innovation, and abstracts this process into an infinite loop chain.

Each node of the knowledge chain model specifically includes: knowledge acquisition, communication Obtain various useful information through various methods; knowledge processing, mainly research Research on knowledge organization, knowledge standardization, knowledge classification and coding, etc.; knowledge discovery, reasonable mining of acquired information, and integration to generate new knowledge; knowledge dissemination and sharing, different people have different explicit knowledge knowledge and tacit knowledge, knowledge needs to be disseminated and shared, and everything inside and outside the organization The acquired knowledge is stored, and enable all members of the organization to share share this knowledge; knowledge use and innovation, knowledge is only used when Useful, it will not depreciate due to use, knowledge is in the process of use will generate more knowledge and thus add more value, can an organization fully Leveraging organizational knowledge, Whether new knowledge can be continuously created will is the key to its success; feedback and knowledge chain are dynamic, indicating The infinite cycle of knowledge emerges.

1.2 Knowledge Chain Improvement Model

Isolated knowledge chains do not exist, any organization is radially connected with many external organizations based on knowledge flow. close contact. The knowledge chain is not only the process of knowledge capture, selection, organization

and innovation within the subject, but also includes the transfer and diffusion between different subjects. This means that, an invisible chain of knowledge is connected between the organization and the external environment, between various parts of the organization, between people and between people and organizations. Therefore, the knowledge chain is based on the transfer and diffusion of knowledge flows between different organizational subjects and within the organization. A network chain structure model with value-added functions that captures, selects, organizes and innovates [1].

In order to ensure the normal working of the knowledge chain, it is also necessary to carry out some Auxiliary activities. Auxiliary activities of the knowledge chain generally include: leadership, that is, building Establish conditions to make knowledge management guidance work more effective; cooperation, that is In knowledge management activities, strengthen cooperative management and integrate appropriate processes and Resources brought to the right place at the right time, and fully implement the use; control, Make the quality and quantity of knowledge meet the requirements and comply with safety requirements Requirements for completeness; measurement, that is, assessment of knowledge resources, knowledge generation and knowledge Understand the value of metabolism. The successful operation of the knowledge chain also requires corresponding environmental support, Such as technology, The organizational structure and culture are excellent., But lacks a functional knowledge management system, because This fails to promote the development of distance education knowledge management.

1.3 The Current Situation of the Organization Hinders the Implementation of Knowledge Management

There are administrative powers and The conflict between the dual structures of academic power. Such an organizational structure Adverse effects on knowledge management include: hindering knowledge free movement, And then affect the innovation of knowledge; lack of trust, Inability to effectively motivate and promote cooperation and cooperation among members cooperation, thereby enabling knowledge innovation, Crisis management organization cooperation or alliance lacks a real basis for survival; lack of flexibility and innovative behavior, Especially when the external environment changes rapidly The speed of response and adjustment is slow, and the entire institution lacks and does not pay attention to knowledge sharing and collaboration. There are many specific activities in distance education institutions., Corresponding management activities Very busy, Currently most distance education institutions will manage activities focus on activities that directly generate economic benefits, management of teaching Pay more attention to management and quality management, Knowledge management is less concerned Note. Employees view knowledge as a personal property, Don't be casual with others shared. Due to the lack of necessary institutional arrangements, Especially to encourage knowledge sharing Sharing policy Some regard knowledge as a potential source of difference. resource, Often share knowledge, especially tacit knowledge adopt an avoidant attitude, This also hinders the sharing and transfer of knowledge. To change this situation Distance education institutions must avoid simply seek for efficiency, The concept of focusing only on practical results and ignoring knowledge management, Aiming at far Carry out effective knowledge management based on core resource knowledge of engineering education institutions, To overcome institutional fragmentation of knowledge, achieve full knowledge comminicate, use, Share innovation and added value.

2. ANALYSIS OF THE CURRENT SITUATION OF KNOWLEDGE MANAGEMENT IN MODERN DISTANCE EDUCATION

The application of knowledge management in modern distance education relies on the Internet network information resources, Establish a system with knowledge production and knowledge dissemination as the main body Educational teaching system, Effectively mine explicit knowledge and tacit knowledge knowledge resources, In order to achieve the ultimate goal of knowledge sharing and innovation throughout the distance education process. That is to say, in the process of distance education, whether the transformation process of explicit knowledge and tacit knowledge can be effectively managed, Can knowledge sharing and innovation be achieved?, It is knowledge management that enables A sign of optimal performance, It is also the application of knowledge management in modern times. The core of programming education. at present, The scale of modern distance education is growing day by day, The country's current high The number of online education students has exceeded 3000000 , Excessive development speed leads to Decline in school quality, to produce knowledge, transfer, Diffusion and innovative development slow. The current situation of knowledge management in distance education institutions presents the following characteristics [2].

2.1 The Existing Knowledge Management of Distance Education is in a Spontaneous State

Since distance education institutions generally have not established and implemented knowledge management system, Soft environment such as culture, And there is a lack of knowledge management in the organization The responsible department, people and systems, Therefore, distance education is currently The knowledge management activities carried out by institutions and individuals are in a primitive and spontaneous state, Often based on dissemination of personal experience, Lack of unified consideration and arrangement, Unable to stimulate the enthusiasm and creativity of teachers, students and staff. This makes it difficult to effectively integrate institutional knowledge, Therefore, knowledge management level lower.

2.2 Lack of Corresponding Knowledge Management System

None of our distance education institutions have established or used knowledge management platform or system, Just use the agency's portal, Email etc. way to carry out some scattered knowledge management activities. in actual operation, machine Organizations are experiencing ever-increasing rates of knowledge growth and innovation, life cycle of knowledge Periods are getting shorter and shorter. As a knowledge-intensive organization, Distance education institutions must Must have the ability to respond quickly to complex and ever-changing knowledge and the ability to sustain Knowledge innovation ability, And all this requires a knowledge management system support. The hardware and network conditions of most distance education institutions in China are poor.

3. DISTANCE EDUCATION KNOWLEDGE MANAGEMENT SYSTEM FRAMEWORK BASED ON KNOWLEDGE CHAIN

Knowledge management system is based on information technology, used to support and Strengthen the production of knowledge, The knowledge management process composed of structuring and transfer Cheng's system [3]. Knowledge management systems should cover everything from knowledge production to The whole process of application, That is, the knowledge process. Knowledge processes are external sources of information acquisition through knowledge, knowledge processing, knowledge discovery, knowledge dissemination and sharing Enjoy, Links such as knowledge use and innovation are interconnected, Is it a recurring cycle? A flow process with an end point. The process of knowledge flow is that knowledge is integrated combine, sequence, innovation process, It is the lifeblood of knowledge management systems. Know The knowledge process is consistent with each node of the knowledge chain model. Based on, Book The article proposes the following page, Knowledge management system framework. Its specific contents include the following aspects:

3.1 Knowledge Resources in Distance Education

The smooth implementation of modern distance education is inseparable from corresponding structural requirements. white, These elements mainly refer to Target, people, education resources, Multiple media body, Interaction etc. Among them are learners, teacher, Administrative staff and teachers Academic Support Services Staff; Teaching resources mainly include printed matter, audiovisual system Taste, Internet resources, etc.; Media used in teaching connect teachers with students, It is the carrier of the course, To some extent, it can determine the success or failure of distance education [4]. According to the meaning of explicit knowledge and tacit knowledge, A knowledge correspondence table that lists the above components in modern distance education activities, as shown in Table 1 below.

Table 1 Architectural elements of modern distance education and their knowledge correspondence

architectural elements	explicit knowledge	tacit knowledge
Target	Establishing goals for distance education	target positioning strategy
personnel	study guide; Teaching Guide Administrative procedures; Support service process	student learning strategies; Teacher's instructional design, Strategy and Skill; Executive management, design strategies; Management of support service personnel, Clothes business skills
education resources	printed matter; Audio and video products; Internet resources Waiting for usage steps	Teaching resource selection strategies; Combination strategies of teaching resources
media	computer, network, CD; video tape; How to use media such as radio and television	Selection and coordination strategies of multiple media
interactive	Construction of interactive platform; Interactive results storage	interactive design, Inspiring interaction Strategy

3.2 Knowledge Processing and Discovery

Knowledge processing and discovery is the process of ordering the disorganized knowledge in knowledge resources. knowledge processing, Mainly researches knowledge organization, Knowledge standardization and knowledge classification coding, etc. [5]. Organizing knowledge: First, we need to delete synchronous and asynchronous interactions with knowledge portals from the massive amount of knowledge; knowledge services provide students with real-time modern knowledge to meet the requirements of talent cultivation of the times. Online education Teachers should set clear goals and reasonable strategies, and choose appropriate teaching methods. materials and advanced teaching facilities, so that the course teaching content reflects interactive Characteristics such as individuality, independence, hierarchy and modernity. Integrated knowledge portal updates The important point is to have the function of personal knowledge management, which can provide learning Learning tools such as concept maps, blogs, etc. Learners can access the Conduct online learning and innovate knowledge while learning knowledge.
Learner-irrelevant knowledge, Applies only to specific people knowledge, Outdated knowledge, etc., Then according to the importance of knowledge, Stored in the knowledge warehouse in categories for recall.

knowledge standardization: Knowledge can be divided into routine knowledge and Exceptional knowledge. Knowledge standardization is mainly about routine knowledge Standardize, This facilitates computer processing and sharing.

Knowledge classification coding: Knowledge must be based on subjects, Professional classification, Also based on local knowledge, global knowledge, Classify routine knowledge and exceptional knowledge. In the knowledge warehouse This classification encoding is used in the library, Can quickly find the knowledge required.

knowledge discovery, Be reasonable with the information obtained dig, Integrate to generate new knowledge; knowledge discovery of Implementation technology specializes in how to extract data from a database a large amount Discover patterns hidden in data, i.e. from data Library extract from, Dig and discover knowledge, Figure out the database

and the correlation between data in the data warehouse, Extracted with use information, Perform data analysis. Specific implementation technology There is data mining, decision tree method, Neural network etc.

3.3 Establish a Shared Knowledge Base

Learning goal oriented, Organize knowledge Create a knowledge base. Knowledge base restricts the development of distance education bottleneck. Core work of knowledge management, That's the basis Actual needs for the development of distance education, through knowledge resources collection, filter, finishing and processing, Leveraging deep indexing and other technologies, According to the knowledge system, Functional system and other different classification standards, Extract useful information for cultivating talents, teaching and scientific research Refining knowledge, Create complete knowledge resources with knowledge elements as the core Library, Such as teaching material library, test question bank, Electronic newspapers and periodicals database, FAQ Ku et al., Facilitate the accumulation of knowledge and share it with teachers, students and staff, Meet teachers and students Inquire, upload, Download and other needs, Therefore, through informatization teaching model Fully explore the tacit knowledge hidden in the minds of teachers and students, Realize hidden The degree of utilization of sexual knowledge and explicit knowledge and the maximization of benefits.

4. ESTABLISH AN INTEGRATED KNOWLEDGE PORTAL

To realize distance education knowledge management, Must provide a knowledge Shared platform. Via integrated knowledge portal, Any learner can not only to connect with other members in real time, Find someone who can help help experts or quickly connect to relevant knowledge, At the same time, we can also share Share partners' resources, Get knowledge support and the latest information [6]. Integrated knowledge portal provides various services to teachers and students, to ensure that the Get the right things to share from the right place in your shared knowledge base at the right time knowledge and transfer it to the appropriate location in the shared knowledge base. common The shared knowledge portal service provides learners with a personalized user interface and dynamic interactive program; Search engine services provide various types of searches search method, Help learners quickly locate knowledge; Collaboration system service pass through electronic communities, expert system, Sharing can be achieved through discussion groups and other forms.

5.INTERPERSONAL NETWORK AND ENVIRONMENTAL SUPPORT

The knowledge management system is a system that combines humans and machines. Different individuals The embedded society established in the common working life among individuals, teams and organizations Ability to communicate and network. A perfect interpersonal network ensures its normal operation effective mechanism. The interpersonal network emphasizes giving full play to people's initiative and creativity. Creativity, strengthen communication and exchanges between people, explore and activate people Tacit knowledge in the brain, so that knowledge innovation never stops. Network As an invisible network, the network runs through the entire knowledge management system.

Knowledge management in distance education depends on the interaction between members and the relationship with the internal and external environment. Learn by setting up virtual organization, Provide various forms of synchronous or asynchronous communication methods, broaden channels for knowledge exchange, and create an atmosphere of knowledge sharing and knowledge innovation. Establish and improve external knowledge networks to form dynamic knowledge flows, thereby achieving the interaction between individual knowledge and collective knowledge, tacit knowledge and explicit knowledge, and promoting the exchange, sharing and innovation of knowledge. In addition, in order to stimulate the inner potential, initiative and innovative spirit of teachers and students, prompt them to contribute shareable tacit knowledge, The knowledge management system must be supplemented by flexible and fair incentive mechanisms and effective knowledge innovation. Evaluation system, cohesive culture, flexible management model, organization The support of the internal environment such as the flattening of the fabric structure.

6. CONCLUSION

The development of the times determines the inevitability of knowledge management, Knowledge management The management system is the mainstream method for effective management of distance education institutions in the future. Towards. Theories, methods and techniques of knowledge management in distance education management Applied research has just begun, and many technical and non-technical Sexual problems need to be solved and await further research and exploration. because Therefore, it is necessary for us to make efforts from all aspects to provide knowledge

for distance education. Effective implementation of knowledge management and construction and improvement of knowledge management system Find effective solutions.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

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