Journal of Contemporary Educational Research

Research Article

Challenges and Strategies for Teachers' Knowledge Management in the "Internet Plus" Era

Jiao Zhang

School of Foreign Languages, Dalian Polytechnic University, Dalian, Liaoning, 116034

Funding: Education and Teaching Reform Project of Dalian University of Technology (JGLX2018140)

Abstract: In the "Internet Plus" era, teachers use Internet platforms and tools for knowledge management. The Internet has triggered 'knowledge explosion'. This phenomenon has brought a series of challenges to knowledge management, such as information overload, knowledge fragmentation, knowledge inertia and so on. In view of the above challenges, we should adopt the strategies, such as, establishing a knowledge database for teachers, giving offline knowledge management media a networked label information, creating a network atmosphere for knowledge sharing, and building a networked knowledge management environment, so as to promote the healthy development of "Internet plus education".

Keywords: Internet Plus; Teachers; Knowledge Management

Publication date: November, 2020
Publication online: 30 November, 2020
[*]***Corresponding author:*** Jiao Zhang, sophie2013526@163.com

1 Teachers' Knowledge Management in the "Internet Plus" Era

Knowledge has been globalized and networked. The Internet is the platform for knowledge acquisition, transmission and storage. For teachers, using the Internet platform for knowledge management and calmly respond to the challenges brought by the knowledge explosion has become a very important topic.

Introducing knowledge management into education and further integrating with the background of the internet is a new challenge for teachers. The traditional knowledge management methods that we are familiar with rely more on fixed scenarios and models. Traditionally, knowledge management is carried out through paper materials, and most of the knowledge is learned from a unified time and place. Different from traditional knowledge, knowledge management under the internet technology can use diverse expressions of words, voice, pictures, video and other multimedia to record knowledge, and finally display it through multimedia terminal equipment.

Affected by the internet, the knowledge management has become informatized and networked, with various and complex knowledge, more channels for acquiring knowledge, and shorter knowledge update cycles. In such era, knowledge management has made a breakthrough in the time dimension. Through electronic equipment teachers can acquire, record and collate knowledge at any time in the knowledge management scope. In such era, knowledge management has expanded in the limitation of spatial dimensions. Unlike traditional knowledge management that relies on fixed scenarios and models, through modern education technology, teachers can share and apply knowledge through the network dimension to achieve more extensive effect. Thanks to electronic media and network platform of knowledge management, the environment of teachers' knowledge management has changed greatly.

With the development of internet technology, it has been a general trend to promote education modernization overall. Combining internet technology in education requires teachers to greatly

improve their knowledge innovation capabilities. It has been an urgent problem for teachers to solve those challenges in the modern internet era by effectively using modern educational technology to knowledge management.

2 Challenges for Teachers' Knowledge Management in the "Internet Plus" Era

2.1 Information Overload

The original growth rate of information has been greatly accelerated. Information knowledge is in the state of explosive growth, which leads to the problems of poor quality, large quantity and low value of information, and information overload has appeared. In the process of applying or processing knowledge, too much information has exceeded the personal ability to deal with information effectively. Teacher's analytical decision-making ability will become lower and there will be an invisible sense of oppression.

The Internet provides teachers with a large number of widely distributed and various forms of information resources. When teachers searching online, they may find it difficult to quickly find the information they need ,because of incorrect search strategies and other reasons. At the same time, teachers will work hard to find the most comprehensive information, spend a lot of time identifying and screening to make correct decisions and judgments, but this will consume more time and energy, and will greatly reduce work efficiency.

2.2 Knowledge Fragmentation

Knowledge has been huge and infinite. The fragmentation of knowledge allows people to learn anytime and anywhere without being restricted by time and place like traditional models. However, at the meanwhile, knowledge fragmentation tends to simplify complex things and ignore the relationship between itself and other things, resulting in the fragmentation of knowledge structure.

Although the fragmentation of knowledge allows teachers to acquire many different aspects of knowledge, it is difficult for teachers to know who puts forward their views on what issues under what circumstances, and it is difficult to obtain contextual information. After some time, teachers are faced with the difficulty of forming a knowledge network even if fragmented knowledge expands the breadth of knowledge. The fragmentation of knowledge structure and the difficulty of forming knowledge network are the urgent problems in Teachers' knowledge management.

2.3 Knowledge Inertia

We obtain a large amount of knowledge from multiple channels, which are mainly divided into inert knowledge and active knowledge. Among them, inert knowledge refers to general knowledge that has been acquired and stored in the brain, but cannot be deeply understood and used, only roughly understood. Knowledge inertia reduces the efficiency of knowledge innovation and knowledge application of teachers and students.

In the environment of information explosion in internet era, teachers and students are faced with the limitation of accepting fragmented knowledge. Most people have been accustomed to accept the knowledge that can not be correctly extracted and used to solve practical problems in practice, even have lost the ability to actively explore the knowledge structure. Under such circumstances, teachers are faced with the problem of correctly guiding students to find the internal relationship of knowledge, forming the networking, programming and conditionalization of knowledge, transforming a large amount of inert knowledge into active knowledge.

3 Strategies for Teachers' Knowledge Management in the "Internet Plus" Era

3.1 Establishing a Knowledge Database for Teachers

Classifying knowledge is the first step of teachers' knowledge management. Teachers' knowledge management can be carried out by establishing a retrieval information catalog for relevant knowledge according to the subject, or by subdividing knowledge application approaches according to the classification of disciplines. After inquiring and downloading the required network resources from the Internet platforms, teachers should establish classification rules to sort and classify unified document resources, and develop the habit of classified storage. While categorizing documents, teachers should also continuously improve and enrich the information of this category through related searches, and finally

internalize the processed information into their own knowledge. In the project of classifying knowledge, teachers can analyze the knowledge structure and build a knowledge network, thereby effectively avoiding the many drawbacks of information overload and knowledge fragmentation.

The Internet has changed the way of people to obtain more information greatly. When acquiring much information that is different from traditional knowledge acquisition methods, knowledge becomes unstructured. Teachers should develop their own ability to select, identify, classify and integrate these massive amounts of information according to their real needs, so as to form their own knowledge system under the current situation of scattered knowledge. A variety of knowledge management tools have emerged, such as Wiki, mind mapping, mobile version, PC version, electronic documents and other knowledge management tools. It is convenient to use these knowledge management tools to achieve knowledge management. Establishing a database of teacher knowledge to form an informatization framework for knowledge management. The storage of classification knowledge can improve the use efficiency of classification knowledge. In addition, it can help teachers quickly extract relevant information from a large amount of knowledge, saving teachers time and energy. An effective way to improve the efficiency of knowledge use when implementing the classification and storage of knowledge. In addition, the knowledge classification storage can also help teachers find the information they want in the massive knowledge, which saves teachers' time and energy to a certain extent.

3.2 Giving Offline Knowledge Management Media a Networked Label Information

The media of offline knowledge management are usually teachers' bookshelves, bookcases or study rooms. These traditional media have very limited storage capacity and have certain requirements for the actual environment. In the "Internet Plus" era, teachers can assign these traditional offline knowledge management media to the networked label information, and at the same time can input part of the paper materials into the computer, and process the knowledge text informationally to ensure and enhance the long-term and security of offline knowledge management.

Under the framework of knowledge offline management, knowledge can be easily inquired and summarized into the future knowledge management framework. Compared with traditional offline knowledge management media, information-based knowledge carriers have great advantages in storage space, and are easy to backup, transfer and rearrange.

3.3 Creating a Network Atmosphere for Knowledge Sharing

In the traditional mode of knowledge management, sharing and dissemination of knowledge are limited to a specific time and space and specific groups of people. The main forms of knowledge dissemination and sharing are public classes, training and learning, meetings and so on. What’s more, famous teachers' classroom videos can be shared to the main platform for teachers and students around the world to learn from; on the other hand, teachers could share experience and views on education from their teaching career, such as: educational thinking, experience summary. There are many online platforms, such as WeChat, MOOC, Baidu Disk, Weibo, and so on. One of the most important of knowledge management is knowledge sharing. In this sharing process, teachers can deepen the processing of knowledge, and strengthen the dissemination and sharing of knowledge. Teachers can share unlimited knowledge through the network platform, and enhance the sharing effect of knowledge management. Finally, this can also create a knowledge-sharing atmosphere of online learning, from which teachers can draw useful comments on them, and further promote the progress of management of teachers' professional knowledge.

3.4 Building a Networked Knowledge Management Environment

Many standardized software platforms for acquiring and managing knowledge have been perfectly designed to effectively meet teachers' knowledge management requirements, especially information push, evaluation, classification and other functions. Some software has been perfected, such as WeChat, Weibo, and so on. Teachers should conduct more open learning and knowledge management, have updated ideas, concepts and technologies to cope with the development of future education. In this process, network information technology is essential. Teachers should improve themselves, adapt to the

trend, and apply new processes and teaching methods. For example, teachers can obtain more accurate information pushes by browsing the content of the favorite specific topics, marking related links in the note-taking software, writing learning sharing and experience, which can obtain more and more relevant teaching materials. What's more, expanding the knowledge reserve of teachers, and more importantly, can further improve their own knowledge structure and enhance their reflection on teaching.

References

[1] Engelbrecht, J., Llinares, s. & Borba, M. C. 2020. transformation of the mathematics classroom with the internet. Zdm-mathematics education, 52, 825-841.

[2] Qian, Y. "internet + age" teachers' personal knowledge management and approaches. Computer knowledge and technology,16(5), 133-134.(in chinese)

[3] Li, Y. H., Alqahtani, A., Solaiman, E., et al. 2019. Iot-cane: a unified knowledge management system for data-centric internet of things application systems. Journal of parallel and distributed computing, 131, 161-172.

[4] Domagala, p. & ieee 2019. internet of things and big data technologies as an opportunity for organizations based on knowledge management, new york, ieee.

[5] Liu, m.-y 2019. research on characteristics of mooc learners and learning effect. Nanning normal university.(in chinese)

[6] Shan, x 2019. probe into the knowledge management strategies of university teachers under the internet background. Heilongjiang higher education research, ,37(03), 86-89.(in chinese)

[7] Zhang, h., sanin, c. & szczerbicki, e. 2016. experience-oriented knowledge management for internet of things. In: krol, d., madeyski, l. & nguyen, n. T. (eds.) Recent developments in intelligent information and database systems.

[8] Chen, h.-d, zhang, j 2016. analysis of effectiveness of middle school teachers' knowledge management based on information fragmentation. Information and computer (theoretical edition), 05, 180-181.(in chinese)

[9] Porter, m. E. & heppelmann, j. E. 2015. how smart, connected products are transforming companies. Harvard business review, 93-96.

[10] Chen, W., Zhou, z.-k., hong, j.-z. & anonymous 2014. the co-evolution of internet technologies, social networks and knowledge management.

[11] Ilic, D. 2010. the role of the internet on patient knowledge management, education, and decision-making. Telemedicine journal and e-health, 16, 664-669.

[12] Dai, w. & wbm org, c. 2010. research on the system framework of knowledge innovative platform based on knowledge management on internet.

[13] Luo, t., Xiong, z. & fang, y. 2008. a framework of knowledge management for mass customization internet-based.