



Study on a method of understanding-efficiency-based in network

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ABSTRACT

This paper expounds processes of read understood and information transferred from epistemology and ontology according to customers' requirements of knowledge service. It points out that method frames of content contrast were to access knowledge points via study on definition of knowledge and forms of semantic description. Some literatures would be contrasted with couple to couple by computer technology in order to raise read understanding efficiency.

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Introduction

In recent years knowledge service has deeply studied to attain reform initiative results of more concrete and practical aspects with knowledge management. A service effect has directly relation to undergo ability, accept ability and understand ability of customers' requirements, to invest cost, run mode and so on everyway as well. A method of knowledge service is a purpose to give initiative knowledge via raising understood ability, reading efficiency, accepting explicit knowledge fast for service people. It is a target of people read that need to conceptualize for their things and bring up a problem and resolve it. People have obtained knowledge while their targets carry through with resolving the problem. People's knowledge has got from read in information society except oneself practice. Cognition is the first step of contacting outside world as feeling stage. It is the second step that feeling material processed and arranged as concept, judgment and inference.

It is essential that knowledge service want to satisfy reader need. The service value is decided whether or not to resolve a problem for user. A content of knowledge service is custom through user information action all the time. The definition of knowledge service has various illustrations but it was basically developmental from previous technological informative service. Its service items have collecting, analyzing, processing, integrating information according to user's request. The information is mainly from literature database in network. The user has got a lot of articles not to relate well each other and almost not to read all of ones. There is not efficiency of understand and usage. Ebrary (Qu Chen-chen, 2008) carried out an inspection of market and requirement about university students using electronic books who united 150 more universities and academic libraries. The survey shown that electronic books are unpopular and lack reading comfort and not more credible than printing books. With a development of information technology, people become increasingly dependent on electronic resources in network and a great number of

information is made out by persons. The information can not be credited and, never mind, not be understood.

Process from read to understanding

Understanding meant known, realization, is a cognitive process from intuition to create a concept. Anything awakened is the new thing found in some old thing, and can use a familiar name to mark it. When it finds in a known object rather than the names of other objects, this is the end of the cognitive process (Mao Tsetung, 1968). The cognition, that is, demands the previous separation two phenomena reducing to another. At first some things were found from a thing again, and then some other things were found from the things and so. People's understandings move forward from one stage to other stage. The intuition can establish a particularly close relationship between the subject and the object. The cognitive things are moved into cognitive awareness with intuition which is not comprehension and is only experience. It has got only experience of things rather than the understanding of things with intuition. The intuition is prerequisite for knowledge that is only raw materials of cognition and not knowledge. It is not until a process of integrating and finding materials only by comparison that the cognitive work begins. The intuition can only make these materials provided for knowledge services.

Language is to adjust a form of the comprehension, and sentence is to determine a set of comprehension way after adjustment. The sentence is a thinking tool rather than a body outside of the corresponding model. We only look at the object via the language, and we observe phenomena via some kind of sentences to spread the extent. In a sentence, every word is a concept to understand or observe the dimensions. These dimensions are organized in the grammar relations, thus which guide people orientation to pay close attention to this or that phenomenon. This is the people's language activities.

This is a sort of sublimation of reading results from understanding to knowledge. People's knowledge in social practice is the understanding of objective things, mainly

dependent on the material production activities, gradually understanding of natural phenomena, the character of nature, the natural law, the relation between people and natural. All of this knowledge, to leave production activities is not obtained (Mao Tsetung, 1968). He said in the "On practice" about linking the understanding and knowledge that "you have knowledge, you must participate in the practice of real change", "I am as indirect experience, while other is still as direct experience. Therefore, overall that, no matter what kind of knowledge can not be left directly experience."

Practice is the basis of understanding. The theory activity is not a form of practice themselves and not a form of independence, but it is a part of the process of relationships in the practice. Here the reading comprehension is only a perceptual activity of thinking and the logic is based on the analysis and judgment before people's understanding for things do not practice. There is a certain time period of understanding whether right or wrong. Efficiency is to complete work at unit time. The deeper people understand for things, the longer time their reaction may be. So it is high efficiency to take short time in a certain amount of things to understand or judge.

The efficiency of information processing based on full understanding information. Understanding efficiency must be perceptual activities both to receive and provide information for the same problems. It will be the high understanding efficiency to provide information of logic content and language expression in line with receiving the information, otherwise the contrary. It is a high or a low level of understanding efficiency that there is different feeling in everyone's perceptual and thinking. There is always a low period or a fatigue period rather than always a period of excitement for one's thinking. This exciting period will show weakened and fatigue according as to increase with the number of the thinking process. The fatigue given is a major factor with reading large and taking long. It needs exciting external factors to maintain and extend the excitement period of one's minds. The excitement period maintained should reduce time and amount to read and that excited be read the novel contents as primary means. Same excitement has different role and reaction for different body. So it is reason why a person has stimulating effect and others may be very small role even non-functional.

Knowledge and ontology knowledge

The knowledge has been various interpretations on researches their own disciplines to determine it. The most influential interpretation of knowledge was Plato's works "Taitaide Chapter" (Plato, 2002) that Su Gela At developed the definition of the knowledge a dialogue among three persons. Knowledge defined must be true and believed needs being true. In short, knowledge is true and is also believed to be true. So knowledge is confirmed and is different from people's belief and is a real thing. The issue on epistemology is how appropriately to certify true belief, which people sometimes referred to as confirmed theory. This shows that knowledge consists of three elements of belief, true and confirmation.

If knowledge is viewed from another aspect, it is a concept of language itself. Ontology, it is being, is systematically describing a body in objective world from semantic understanding. The ontology of knowledge is being of knowledge and ontological language of knowledge. Logic semantics prefers ontology to unify with world outlook, knowledge theory and methodology. Scientific language expresses thing to be meaningful for scientific language itself, in

addition no something else. Semantic rules determine everything in the world and are ontology which expresses form rules as knowledge content. Logical empiricism reformed knowledge theory in all aspects related to ontology and such a change was called the ontological intellectualization (Yi Ming, 2007) by the semantic ontology.

The being of the idea is different from not only the real existence but also the semantic existence, and is a functionality existence of the thinking. The idea must have some significance that expresses its purpose and its external relations. The idea itself is a kind of design of the thinking, which of realization is exactly its meaning. The idea expressed in sentence has not only functionality significance but also semantic significance between which there are important distinctions. It can not be understood and not express the idea if a sentence is confusing in the semantics. Sometimes a sentence conforms full to the requirements of linguistics and read by people but it still can not be understood. Here the "understanding" is clearly another kind of understanding, in fact, is the understanding of the functional significance (Zhao Tingyang, 2005), and needs regarding the language and the world with scientific knowledge. The language is a symbol system of the cognitional significance and the world outlook significance of the analyzing scientific language and semantic foundation from a knowledge construction.

W. V. O. Quine (2007) said: "We note that the variable restrictive does not know what exists but does know what our or other people's theory or a statement exists. It is almost entirely issues about a language. But it is another problem on what to be." In other words, the ontology, Quine said, only understood an agreement theory in the use of the language. Knowledge ontology is a kind of abstraction or description in the area of knowledge and a kind of methods of the knowledge of expression, sharing and reuse. Every area of knowledge is abstracted into a set of concept system and then is specifically embodied into one word to express clearly a definition and relationship between word with word and axiomatic statement, which the same area of knowledge will reach a consensus and form to share the "vocabulary".

Literature Understanding-efficiency in network

Providing knowledge services in network are a purpose that customers are able to get their inspirations from those materials provided and get senses of innovation, rather than to understand all of knowledge. It will cause an opposite effect to provide too much and too miscellaneous materials which will interfere with customer thinking and feel fatigue. People are not unchangeable for understanding knowledge with the development of society and innovation of science and technology. People need revising previous knowledge and experience via further reading to obtain new knowledge. Similarly, there is also a question of efficiency when readers use library resources. An understanding efficiency is only one of them as retrieval, acquisition, read and return in the whole efficiencies. Time is valuable for most readers who want not to waste time in the process null and void, unless they have nothing to do. Computer retrieval takes more time than manual card retrieval in the efficiency and network management and browsing save a lot of time as hand-management and directly read in the library in the process of the read. But it is not all using computer processing that would be able to increase efficiency such as research and study for the purpose as readers with paper books or periodicals higher efficiency than e-books or periodicals. Electronic documents can only improve functions to retrieve, flip and paste, but can not serve the purpose of the

understanding efficiency now. So many readers thought that the electronic document resources were only a means, rather than a real collection and the purpose of reading comprehension. It is important that people's attitude of perceptual knowledge be changed and the knowledge services customized be improved via the use of information technology in the process of understanding to achieve purposes of social development with high, fast and active efficiency.

Knowledge is composed of both internal and external parts for readers. The internal knowledge is how much basic knowledge readers need get new knowledge and how much capacity and efficiency readers can grasp and understand knowledge. The external knowledge is to accept extent and quantity of knowledge and if knowledge extent offered is light readers can not attain to understand effect and if quantity is small ones can not make correct understanding. Knowledge services should not be simple that "it is to search, organize, analyze, reengineering knowledge of dependent subjects for teachers and students in services (Xu Kaiying, Liu Jia, Ban Xiaolin, 2007)". It should innovate the current information and then offer relevant persons. This innovation is not the literatures accumulated that librarian work was ago in many libraries. In information systems, readers can retrieve out such hundreds of thousands of relevant articles by searching word, so they can not start. The purpose of knowledge services will reduce the quantity of literatures retrieved out, which literatures are available to readers with the real practical effect, so that readers understand more efficiently and their reading scopes are wider. But there are still not some theories and methods to reduce the quantity of information retrieved and solve the problem of understanding efficiency. People used the search engines of Google and Du Xiu Library via adopting knowledge elements as drawing theory for knowledge service. But there were still very little knowledge points and most invalid information. Results retrieved of Springer were better than any other database but still was difficult to obtain useful knowledge points, not to mention the efficiency of the reading comprehension.

Method of comparing knowledge content

From above we known, cognitive action does not begin until it has materials sorted out via processes of comparison and discovery. Materials provided now are only a sort of intuition for knowledge services. We need to improve understanding efficiency to provide material contents so that customers can form an intuitive feeling. It may keep on next step a process of cognition.

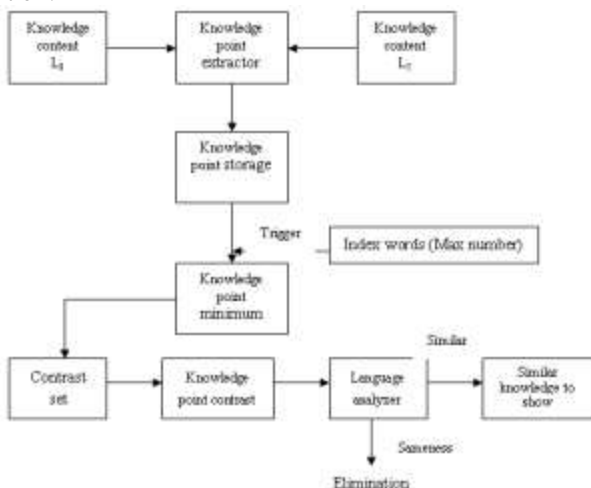


Figure 1 Process of knowledge content contrast

The purpose of readers in library is to obtain literature contents which are also one of tasks of library staffs as a new service. Contrast retrieval of knowledge content (Figure 1) is a knowledge point entrance of information retrieval to take high-frequency key words or semantic description from a content of the literature after a literature divided into sections and paragraphs. An index of the knowledge points will be stored in memory when knowledge points process minimum (knowledge point>1) for each literature. Then match will configure demands of knowledge points via "Contrast set" and knowledge points will compare with a pair in "Knowledge point contrast". Expressing knowledge points will be determined whether or not in "Language analyzer". They may be read by reader if expressing knowledge points are similar to show or sameness otherwise. These will set database and XML homepage to process in server. The original literature will be automatically extract key words in the pretreatment to improve the reading quality and reading comprehension efficiency as one's purpose with time-saving read when a reader removes non-relative chapters and sections or same literatures, sections, paragraphs. Now all of the retrieval records are only basis on one literature unit whether it is a bibliography or a full text so readers are difficult for browsing all the information with the amount of information run up. It was used reader's reading habits via several articles or documents at the same time viewing and current method does not. The method of content contrast (Yan Bin and Chai Xiaojuan, 2005) is that the content of every document relatively will be divided into small pieces of literature via cross-comparison between them.

The text on Website may compare contents with one on other Website with XML and SQL languages. The papers in literature database do not compare content of each paragraph with XML with one in other paper but it can select papers and show them. There is a function of the direct position after reading such as Adobe Reader 7.0 and CAJViewer 7.0. The paragraph similar content is shown directly with its position and does not divided into paragraphs after each paragraph is compared with itself content. Search engine on Website may avoid showing same content via content contrast while results are a content unit of each website, of course customer choosing it after. The content contrast should add into retrieve functions via extracting key semantic description rather than key words when literature database system redesigns. The knowledge chain depends on logical interdependence of knowledge elements to judge the specific marking of the paragraph or sentence. The concrete content is knowledge elements and there are a few contents of the knowledge elements in every literature which is suitable for the index information. It will realize the relationship between the index information and knowledge element by calculated.

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Yan Bin is a research librarian/professor and a postgraduate instructor and a former chief librarian of NUPT. He was graduated from Peking University and has engaged in library technical and management theory research for over twenty years. He has published more than forty theses on contemporary information management and information system design in domestic and abroad academic journals. His main study area is the theory and application of modern information management technology. He is a vice-director of the Modern Technology Committee of Academic Library of Jiangsu Province, China.