“Getting Things Done” method applied to personal knowledge management under the E-learning environment

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Abstract: With the rapid development of the information technology, E-Learning is becoming an important means of personal knowledge management. But at the same time, there exist some learning barriers during the application of E-learning, especially concerning time management. These obstacles influence the efficiency of the E-learning. In theory of personal knowledge management, high-efficiency utilization of time is an implicit condition which should be enlightened under the circumstance of E-learning. Therefore, GTD (Getting Things Done) method of time management will be introduced to optimize the learning process for personal knowledge management and to enhance the personal learning planning and execution. The idea of Time management would be valued in the process of E-learning practice.

Keywords: E-learning, Getting things done, GTD, Personal Knowledge Management, Time management

I. Introduction

In recent years, with the rapid development of computer technology, network technology and information technology, Digital Learning is becoming an important means of personal learning. E-learning is a flexible way of learning. As long as there is Internet as the access device, you can learn knowledge anytime and anywhere. Each person can learn according to their needs and speed. It is a personalized learning concept which brings us the revolution of study. But E-learning is a double-edged sword, which has both positive and negative influences on the personal learning. There are a few issues for this learning approach.

Firstly, learners are facing the problems of information explosion and information interference. Mankind has made passage into the information society and knowledge economy era. The output of the information and knowledge increases in the exponential order. With the advent of the information era, information has become a kind of productive resource and operation cost, and the information power is the key to the competition. It sets forth stricter requirements for learners’ capacity. The information explosion is not equal to the explosion of knowledge. There are too many information to be learned. Individuals are always limited for receiving and processing large amounts of information with limited time and capacity. Learners will be interfered by a large number of useless information while the truly valuable information is drowned out by the redundant information. So it is a challenge of E-Learning how to organize information and eliminate useless information interference from the massive overload of information.

Secondly, E-learning changes the way of reading. The traditional textbook reading is divided into three procedures: understanding, acquainting and mastering. This deep reading has been changing for pursing the efficiency in the E-era. Learners can customize the reading contents through the search engine and extract the fragmented reading components which meet the readers’ needs. They can obtain the required information without thinking or memorizing. This light reading way requires neither high cognitive capacity nor memory power. But this way of learning will induce the idleness of thinking. Deng Weizhi, the professor of sociology at Shanghai University, believes that thinking helps one to make progress, but it is also heavy. Those deep reading can often lead to a better understanding of the community and arouse the reader’s perception and thinking. We cannot give up the opportunities of accumulating knowledge, simply because the “light reading” is easy and happy.

Thirdly, the personal memory storage is gradually replaced by the internet. The Internet has become a primary form of external or transactive memory, where information is stored collectively outside ourselves. [2] According to Betsy Sparrow report, the advent of the Internet, with sophisticated algorithmic search engines, has made accessing information as easy as lifting a finger. No longer do we have to make costly efforts to find the things we want. When faced with difficult questions, people are primed to think about computers and when people expect to have future access to information, they have lower rates of recall of the information itself and enhanced recall instead for where to access it.

Fourthly, information fragmentation is scattering learner’s attention resources. People can read a lot of information through the network media. But they do not have a deep understanding and memory. Learning becomes superficial. Website like Wikipedia combines the fragmented knowledge for users to read and learn. Internet can put different types of information on one screen through multimedia technology. Social networking, email, RSS, blogs, YouTube and other new media exacerbate the fragmentation of the information content. All kinds of content attract and divert our limited attention resources. Besides, devices such as iPad or Kindle Fire, which are capable of surfing the Internet or streaming video, promote the heightened distractibility among learners.
These problems, such as the information explosion and interference, the light reading, the outside memory storage and the scattered attention caused by Information fragmentation, may result in the adverse effect on the efficiency of E-learning. E-learning has undeniably advantage with the development of internet. But it also has side effects associated with the diversified digital resources which could distract the learning attention and affect the learning outcomes. Therefore, under E-Learning environment, the primary problem of personal knowledge management is how to improve the efficiency and quality of learning and to reduce the negative impact of the internet.

II. Necessity of Time Management in Personal Knowledge Management

In face of these challenges, a higher demand on our limited attention allocation will be needed and this requires that we pay more attention to time management. Time management is the act or process of consciously controlling the time of planning and exercising, for increasing effectiveness, efficiency or productivity. Time management may be aided by a range of skills, tools, and techniques to manage time when accomplishing specific tasks, projects and goals within a due date. This set encompasses a wide scope of activities which include the planning, allocating, setting goals, delegation, time of, analysis, monitoring, organizing, scheduling, and prioritizing. Initially, time management only refers to the business or work activities, but eventually the term is broadened to include the personal activities as well. A time management system is a designed combination of processes, tools, techniques, and methods. Usually time management is necessary for any project development as it determines the completion time and scope. The introduction of the concept of time management under E-learning environment has a positive evaluation for the personal knowledge management.

For one thing, the E-learning changes the way to acquire knowledge on one hand, and it sets higher requirements for the time management on the other hand. The traditional knowledge flow spreads and circulates mainly through education, books, newspapers, magazines, radio and apprentice. Computer and network technology have greatly improved the informationization process of knowledge; the study of knowledge is no longer a book or a couple of references, but the associated professional knowledge database. In support of the database, the knowledge system has been re-divided; learning contents have been re-combined; methods of learning and research have been changed. The way of learning changes from reality to virtualization, passivity to initiative, one-way individuals to interactive cooperation, inherited knowledge to innovation, and systematic learning to targeted learning. Professor Dorsey summarizes and defines seven core skills of personal knowledge management: information retrieval, information evaluation, information organization, information representation, information security, information coordination [4]. E-learning has a positive effect on the improvement of these skills. But it also increases the time of knowledge management such as increase of time for retrieving information caused by information explosion; increase of time for evaluating information caused by information interference; increase of time for organizing information caused by information overload; increase of time for coordinating information caused by multimedia resource channel.

For another, the information fragmentation in network era challenges the personal time management. When we access information through the internet, a dazzling diversification of information will come into view. It includes a variety of formats of documents, pictures, Web links, blogs, twitters, forum posts and so on. These information fragments often appear disorderly without structure. But they may be valuable to users. Accordingly, learners need to use effective knowledge organization to integrate fragmented information which can be connected with each other. So the information can be saved in order to avoid being forgotten or lost. The fragmented information collection is accompanied with the fragmented time management. Influenced by the subjective and objective aspects, learning time is not necessarily a complete period of time in the process of E-learning. Learners should plan their leisure time and make their own learning schedule. The accumulation of knowledge is a progressive management of the fragmented knowledge. Time is becoming a key factor in learning. Fragmentation of time management asks for the higher requirements for the management of personal knowledge.

Last but not least, the time management is the inherent requirement to improve the learning efficiency. In the Web2.0 era, the knowledge and information sources with multi-channel and multi-platform, like blogs, twitter, E-mail, Instant Messaging, Social Networking Services, can both provide huge amounts of information and affect the learners' learning efficiency to some extent. Learners' attention resources is greatly distracted by the expansion of information acquisition. The conflict between the limited time utilization and the unlimited network resources is the main problem for learners to deal with in the process of E-learning. Under the circumstances, the time management tools should be enlightened in personal knowledge management. From a goal setting standpoint, the concept of time management is consistent with the personal knowledge management which can improve the learning efficiency and the limited attention resources can be rationally allocated in the learning process through time management.

III. Definitions of Personal Knowledge Management under the E-learning Environment
E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process.[5] E-learning is essentially the computer and network-enabled transfer of skills and knowledge. Its applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. It can be self-paced or instructor-led and includes media in the form of text, image, animation, streaming video and audio. E-learning provides a multimedia learning environment where is naturally suited to distance learning and flexible learning. Personal knowledge management (PKM) is a collection of processes that a person uses to gather, classify, store, search, retrieve, and share knowledge in his or her daily activities (Grundspenkis 2007) [6] and the way in which these processes support work activities (Wright 2005) [7]. It is a response to the idea that knowledge workers increasingly need to be responsible for their own growth and learning. (Smedley 2009) PKM needs knowledge workers responsible for their own growth and learning. Jarche (2010) laid out a more suitable definition of personal knowledge management under the E-learning environment. He mentioned that “PKM is an individual, disciplined process by which we make sense of information, observations and ideas. In the past it may have been keeping a journal, writing letters or having conversations. These are still valid, but with digital media we can add context by categorizing, commenting or even remixing it. We can also store digital media for easy retrieval”. [8] After Kam Fai Cheong(2011) compare a large number of previous research on knowledge management, he conclude that “Irrespective of how PKM is defined by different scholars, the key purpose of PKM is to provide a framework for individuals to manage new information, integrate it and enrich each individual knowledge database in an effective manner. Doing this successfully will empower each individual to easily apply their own personal knowledge to deal with new and old problems, to learn from new experience and to create new knowledge. It is a continuous and interactive process which is not independent of other knowledge management processes.”[9]

University of Michigan, USA Professor Paul A. Dorsey propose from the perspective of skills: "Personal knowledge management should be seen as both the logic level of the conceptual level there are a set of practical problem-solving skills and methods. These skills are in the 21 century of knowledge necessary for the work. "He summarizes and defines seven core personal knowledge management skills: information retrieval, information evaluation, information organization, information representation, information security, information coordination. [10] Swiss Open Connect AG's head of knowledge management, Professor Hyams (2000) from the broader perspective of interpretation of the meaning of personal knowledge management, in addition to Dorsey (2000) described the content of information, but also adds time management, infrastructure, organizational skills, etc., the work, including: time control, work space comfort, speed reading, notes and Research, filing and document management, information design (what information is useful, what information is useless, and aimed writing, knowledge / information processing facilities (commonly referred to PC and other IT equipment, knowledge / information filtering skills. [11]

Study of PKM implies the basic content and ideas of time management, and there are a lot of content consistent with time management philosophy. However, few studies have pointed out the importance method of time management to personal knowledge management application. Time management does not have a clearly defined in personal knowledge management. Most of the scholars take the time management as a default assumption on the personal knowledge management analysis box, that is, time is the full and efficient use during individuals knowledge management processing. At the same time, Time management has not technology been put forward as a skill of personal knowledge management. Except professor Hyams mentioned some basic requirements of time management which should be included in the PKM, few studies have analyzed the time management in the personal knowledge management. The purpose of this paper is to introduce GTD method as a time management skill to enrich the personal knowledge management tools.

IV. What is GTD time management method

What is GTD? GTD is the abbreviation for “getting things done”. According to David Allen [12], GTD embodies an easy, step-by-step and highly efficient method for achieving this relaxed, productive state. The main principle of GTD is that you need to get it all tasks out of your head. By this way, mind can do not stuffed with all kinds of things need to be completed, and focus on things to be completed. It provides a method for personal productivity enhancement, and reduction of the stress caused by information overload. After writing down all the things you want to do and making plans and arrangements for the next step, you can spare no effort to do the current work and improve efficiency.

According to David Allen, Ineffective personal organizational systems create huge sub-conscious resistance to undertaking even bigger projects and goals that will likely not be managed well, and that will in turn cause even more distraction and stress. What we should do is that we capture and organize 100 percent of our "stuff" in and with objective tools at hand, not in my mind. And that applies to everything—little or big, personal or professional, urgent or not. GTD, in fact, can be included into two points: (1) Getting it all out of your head. There is usually an inverse proportion between how much something is on your mind and how much
it's getting done. A logical and reliable system should be established by means of categories management. Brain is used to thinking, not to make notes. Our brains spend too much time every day to remind us what to do and when to do and it should be liberated from this way. (2) Turning tasks and projects into concrete actions. Whatever the task is, we have to ask the question what is the next action? Only by this way, can we make plan specifically, so that we can always grasp what to do. As a result, in the given time of given action, we can make the best choice, and have confidence in their own options for action.

Allen explains the five stages of mastering workflow: to collect, process, organize, review and do.

Stage 1: Collecting. Collecting everything is the critical first step. You must collect your thoughts and action items into one inbox that will allow you to process them properly. Collecting the information is not enough; you must know you have collected everything you need to move a project forward. If you don't then you are likely to forget things and stop trusting the system. There are many tools that can help you with the collection process such as: notepads, smartphones, online tools, email and physical inboxes on a desk. Ultimately, you want to have your items all land in a single inbox to be processed. Collection is fundamental and should be done constantly. Even if you are not able to act upon the items you are collecting at the moment it is important to write them down. Drop a note or physical item into your inbox for everything you need to act upon and you will know you have collected it. You no longer need to think about it. Condense everything into as few inboxes as possible.

Stage 2: Processing. After everything is collected you can start processing. The purpose of the collecting step is to fill the inbox, now your goal is to empty it. Processing should get you to the bottom of the inbox. When processing you need to clear everything out. Nothing goes back into the box once it has been taken out. Figure out what every item needs to have done to it. Take one item at a time and don't move on to the next until you have assigned a place for everything. That place may be a trash can. Allow yourself that liberty. If it is something that needs to be filed for reference purposes, then file it. Some items need to be filed with the project folder they belong to. If it is time sensitive then setting up a calendar file will help you remember it when you need to deal with it. You no longer have to keep thinking about items because they are in the system to be dealt with at the right time. If the item needs action taken upon it you have three choices: Do, Delegate, Deferral. If it can be done in 2 minutes or less, then do it right then. If someone else needs to do it, then delegate it. Deferring means that you choose not to do it at this time. That is fine, but that is not an excuse to drop it back into the inbox. You need to assign a time to the item so that it will be reviewed again when it is time to act upon it.

Stage 3: Organizing. While processing you will be Organizing. Organization is where everything is filed that needs to be filed. There will be lists that some items get jotted down on, others will end up in reference and project folders. Items that need to be put on a calendar will be scheduled for the right time. The longer you use GTD the better organized you will become. Some of the lists where your action items will end up are projects, next action and waiting for lists. These lists help you know what projects need to be done and what are the next actions to move the project forward. When waiting for someone else to complete a task or get you further information, you will jot that down so you know who needs to get back with you.

Stage 4: Reviewing. The key to keeping everything running smoothly in the GTD system is the regularly review. This is a time that you do a general overview of all your projects and action items. While you don't want to constantly think about items, you do need to think about them occasionally. The regularly review will help you know what needs to be done in the following regular. This does not mean that you never review at other times. Reviewing your action lists and project specific items will be done as often as necessary to accomplish your tasks. The Regularly Review is critical to trusting the system. This is the confidence you need to know that nothing will suddenly surprise you.

Stage 5: Doing. There are four criteria for knowing when and how to actually accomplish the tasks that need to be done. They are: Context, Time available, Energy available and Priority. Break your lists down into settings or locations. These are your Contexts. Grocery items go onto a list that you only need to look at when going to the grocery store. Context specific lists will help you know what you need to do when you are in the setting where it can be done. The Time and Energy available will dictate when you can do a task. Work on items that can be accomplished in the time available and at the energy level you currently possess. Everyone wants to prioritize their lists, but your priorities will be based on the other three criteria of Context, Time available and Energy available.

GTD is a sustainable system that can help you track and manage your thoughts of what you need to do and want to do, so that you can focus on completion of the most important task. The purpose of this paper is using the GTD system to assist learning process of personal knowledge management and to improve the learning efficiency of E-learning.

V. GTD method applied to personal knowledge management under the E-learning environment

Under E-learning environment, the main issue caused by diversification of information sources and learning content overload is time management. How to effectively organize learning resources and reasonable
arrange learning process will be discussed here. Analysis of the E-learning environment GTD in personal knowledge management will be presented Combined with GTD flowchart. (Fig. 1)

In Web 2.0 era, the source of learning materials has diversified. Web Applications promote information exchange and collaboration between people on the network. The typical Web 2.0 site include: online communities, web applications, social networking sites, blog, wiki and so on. Diversified learning channels expand the capacity of the learners to access learning content. Learning content includes data, information and knowledge. Data is a symbol set that is quantified and/or qualified. Information is a set of significant signs that has the ability to create knowledge... The essence of the information phenomenon has been characterized as the occurrence of a communication process that takes place between the sender and the recipient of the message. Thus, the various concepts of information tend to concentrate on the origin and the end point of this communication process (Wersig and Neveling, 1975) [13]. Knowledge is information that has been appropriate by the user... When information is adequately assimilated, it produces knowledge, modifies the individual’s mental store of information and benefits his development and that of the society in which he lives. Thus, as the mediating agent in the production of knowledge, the information, qualifies itself, in form and substance, as significant structures able to generate knowledge for the individual.

In the initial stage of the GTD system, you need to collect various data, information, knowledge, as learning materials into the “in-basket”. For a learning task, in the beginning, it should be one hundred percent possible to obtain all relevant learning materials. Some of them are helpful for learning, some are not. After sorted out and learned, these materials eventually deposit into learners’ brains. However, due to the e-learning information overload, learners cannot be disposable all the organization and memory at once. Therefore, these data needs to be stored in "containers" firstly. This is the first phase of GTD-collecting. The storage of learning materials can be a one-time, or updated from time to time. Before learning task is completed, any useful information can be put into the in-basket at any time. The learning process is to continue to empty the basket of learning materials for organize and memory into personal knowledge. According to personal knowledge management, the stage of collecting learning materials matches the information retrieval skill. Avery et al (2001) [14] mentioned that retrieving information “involves gathering information not just from print and electronic sources, but through experimentation and oral inquiry, as well as a broad range of more discipline-specific techniques. Capabilities required range from the low-tech skills of asking questions, listening, and following up to skills in using search tools, reading and note-taking. Concepts of widening and narrowing one’s search, Boolean logic, and iterative search practices are an important part of the effective exercise of this PKM skill as are social skills required for more effective oral inquiry. Also, as the literature on information literacy
emphasizes, considerable effort should be placed on framing inquiry even before information retrieval commences. The effective use of Internet search engines and electronic databases in the inquiry process requires technology skills as part of the repertoire of PKM skills.”

After learning materials have been collected into the basket, the next task is to process. Learning materials processing need to ask yourself one question, what is it? All kinds of learning materials have different difficulty, importance, relevance to current learning task. Therefore, time allocation methods need to be adjusted for different learning materials. Before learning, it is necessary for learners to classify and organize different materials. Is this learning material need for action? There are two possible answers for this: YES and NO. Learning materials relevant to current learning task need to be considered here. No Action Required If the answer is NO. There are three possibilities: (1) it’s trash, no longer needed. (2) No action is needed now, but something might need to be done later (incubate). (3) The item is potentially useful information that might be needed for something later (reference). The latter two situations are placed in folders for future review. According to personal knowledge management, the stage of processing learning materials matches the information evaluation skill. Evaluating information skill is “closely related to the skill of retrieving information. Strategies of information retrieval should be based on practices that select data and information that pass some evaluative tests. However, evaluation also takes place after retrieval as the quality and relevance of various pieces of information are judged as they relate to the problem at hand. We recognize that difference disciplines tend to emphasize disparate evaluative criteria as they determine quality and relevance. The greater availability of information in the current information-rich environments makes this skill of far greater importance in the electronic age. The intelligent use of some crude electronic tools, such as “relevance raters,” can be relevant to the effective evaluation of information.”

If learning materials need to put into action, then what is the next step? Difficulty and importance of learning materials will be considered here. If learning materials are difficult for studying and do not need to be completed in the short term, you create a project folder where the types of materials can be put into. The project folder is characterized by the complexity of learning materials which need to go through multi-step to complete the learning task. Because the difficulty of this type of learning task, it need to be managed when the accumulation of learning tasks in the project folder to a certain amount. You need to establish a learning plan to manage the list of items for action review. When this study data is not difficult, and need to be completed in the short term, according to David Allen’s, if an action will take less than two minutes, it should be done at the moment it is defined. Otherwise, the next step of question is: Can it be done by you?

E-learning is a self-educating progress. You will inevitably encounter some problems you do not understand. When dealing with this problem, you need to ask yourself whether you can solve this problem. If you cannot, you can delegate it to the appropriate entity. Thanks to the rapid development of network, you can ask others for help through communication technologies when you cannot solve the problem. Communication technologies are generally categorized as asynchronous or synchronous. Asynchronous activities use technologies such as blogs, wikis, and discussion boards. Participants may engage in the exchange of ideas or information without the dependency of other participants’ involvement at the same time. Electronic mail (Email) is also asynchronous in that mail can be sent or received without having both the participants’ involvement at the same time. In an E-learning environment, synchronous communications would be a Skype conversation or a chat room where everyone is online and working collaboratively at the same time. According to personal knowledge management, the stage of delegating difficulty learning task matches the information collaborating skill. Avery et al. (2001) argued that “the interdisciplinary literature on effective teams and groups is replete with principles for effective collaborative work. Listening, showing respect for the understanding of others’ ideas, developing and following through on shared practices, building win/win relationships, and resolving conflicts are among those underlying principles. Within collaborative inquiry, partners in inquiry need to learn to have their voice heard and to hear other voices. Both cultural and more nuts-and-bolts practical issues need to be attended to. The availability of new electronic tools for collaboration to support both synchronous and asynchronous communication requires a whole new set of procedures for efficient information exchange.”

When learning material must be studied in short time, but it cannot be completed immediately, will have to defer acting on it until later and track it on one or more “Next Actions” lists. For this type of learning materials, the next step of learning should be enforceable, no ambiguity and specific. Reminders of actions you need to take fall into two categories: those about things that have to happen on a specific day or time, and those about things that just need to get done as soon as possible. What does need to be tracked is every action that has to happen at a specific time or on a specific day (enter these in your calendar); those that need to be done as soon as they can (add these to your “Next Actions” lists).

According to the learning flow mentioned above, eight discrete categories of reminders and materials result from your processing all your “stuff.” Together they make up a total system for organizing just about everything that’s on your plate, or could be added to it, on a daily and weekly basis. For nonactionable items, the possible categories are trash, incubation tools, and reference storage. If no action is needed on something, you toss it, “tickle” it for later reassessment, or file it so you can find the material if you need to refer to it at another time.
To manage actionable things, you will need a list of projects, storage or files for project plans and materials, a calendar, a list of reminders of next actions, and a list of reminders of things you're waiting for. According to personal knowledge management, the stage of organizing learning materials matches the information organizing skill. Organizing information skill is the core PKM skill identified by Frand and Hixon (1999). It is “a central part of the inquiry process focused on making the connections necessary to link pieces of information. Techniques for organizing information help the inquirer to overcome some of the limitations of the human information processing system. In some ways the key challenge in organizing information is for the inquirer to make the information his or her own through the use of ordering and connecting principles that relate new information to old information. Elementary skills of synthesis and analysis are central to this process. Technological skills in organizing information have become ever more important as electronic tools such as directories and folders, databases, web pages, and web portals provide the inquirer with ever more powerful tools to make connections.” It will help to improve learning efficiency when learning materials organized properly.

After learning materials being collected, processed, organized and reviewed, they just leave to be studied. In this stage, Analysis is a very specific skill to be used. The analysis of information is “fundamental to the process of converting information into knowledge. At the same time, this is the most discipline-specific information skill since the models, theories and frameworks that are central to analysis are frequently tied to the academic disciplines. Analysis builds on the organization of information, but goes beyond it in its emphasis on the importance of respect for standards in public communities. This skill addresses the challenge of extracting meaning out of data. In some disciplines, electronic tools such as electronic spreadsheets and statistical software provide the means to analyze information, but the human element is central framing the models that are embodied in that software.”

From the GTD flow, it is not difficult to find, that personal knowledge management and GTD time management are essentially complementary. GTD contains basic skills of personal knowledge management, like Retrieve information skills (the stage1); assessment of information skills (stage2); organize information skills (stage3, stage4); analysis of information skills (stage5); Information Collaborative skill (stage3 - delegate it).

VI. Conclusions
1. GTD as an application tool of time management
   The GTD method is a complete method of time management which can be applied to work, study and other fields. Under E-learning environment, it is vital to organize fragmented time for individuals to improve the efficiency of learning. Fragmentation of learning materials must be organized and managed for learners. According to GTD time management method, the allocation of time will be arranged based on the proper classification and organization of learning materials. Learning tasks can be executed regarding personal time. And then, you can convert the gathered information into knowledge for learning by reviewing and implementing the tasks. This is consistent with the currently popular concept of time management which emphasizes on the priority of tasks. Based on the concept of priority, goals are set into short and long-term form to allocate the limited time and energy properly and maximize the efficiency.

2. GTD as an organizational tool for personal knowledge management
   The process of time management includes the data collection, organization, storage medium, and allocation of time. The process of personal knowledge management is grasping scientific mnemonics for improving learning efficiency. In these two processes, the former is an external storage process; the latter is an internal storage process. The goal of learning is to convert the external data, information, and knowledge into the internal personal knowledge base. If these two processes are confused, the results of study will be that you may only remember a knowledge source, but not remember its contents. GTD as a means of time management introduced into the knowledge management can separate the external storage process from the internal storage process by organizing and allocating time for the learning materials of the external storage, so that learners will focus on the knowledge contents, rather than the memory of the knowledge source.

3. GTD as a constraining tool for E-learning process
   E-learning emphasizes on the self-learning. It requires learners to persist in the autonomy, exploratory and self-control for the learning goals, learning process and learning activity. The main points of the self-learning are: (1) study is the behavior of the learners themselves constructing knowledge systems; (2) learning objectives and pace should be controlled by learners themselves; (3) learning strategies and methods should be suitable for the independent learning; (4) learners should create the environment and conditions for the independent learning. GTD method can meet the above-mentioned requirements. It provides a powerful tool for constraining the process of E-learning. GTD is both a time management tool and a personal knowledge management skill which can improve the efficiency and quality of learning.

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