

# *Importance of Central Task in Universities under the Big Data Environment*

## Taking Research Synthesis of Hong Kong as an Example

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**Abstract**—Central task plays a vitally important role in all the work of a university. Other work should serve central task for the time being at each stage. The teaching and research of university is a long-term, complex, never-ending and systematic work. In each stage of the process, we should locate the central task accurately, arrange every work coordinately and considerate all the work comprehensively. Based on understanding central task correctly, we need to avoid the error of 'Only Central Task' and focus the main points in Big Data era. In this way, we can really do a good job. Taking research synthesis of Hong Kong as an example, we need to know that central task is dynamic and changing, definite and specific, structured and hierarchical. Furthermore, we need to know that every work is important too and it is necessary to improve the ability of central task.

**Keywords**—central task; research synthesis; teaching and research; ability of central task; Big Data

### I. INTRODUCTION

What's the meaning of Central Task? The concept found on Baidu.com is that *Central Task is an overall important work at some stage and a kind of work that an organization or a region needs to centralize human, material and financial resources to complete for a given period of time* [1]. Pay attention to the following keywords: overall, important work, at some stage, for a given period of time and centralize. The 'at some stage' and 'for a given period of time' have similar meanings here.

Is central task important? That is no doubt that it is the most important work of any university. Central task is the core work that can embody ability and competence, create outputs and achievements, and drive the whole work forging ahead. And other work should support and serve central task. For example, the research synthesis of Hong Kong is a systematic and complex study work. To do it, attaching great importance to central task is unquestionable and indisputable, but it is extremely biased and absolutely wrong to think 'Only Central

Task' is the most important. In its working process of each stage, we should understand the central task fully, position it correctly, analyze the phenomena and causes of the error 'Only Central Task' deeply, seize the emphases tightly and complete the central task indeed.

### II. REUNDERSTANDING CENTRAL TASK IN BIG DATA ERA

#### A. Central Task is dynamic and changing in Big Data Era

Central task is an important work of any university in different developing phases. But a central task only dominates temporarily in a period of time or at some stage. With the development of work, central task and its content will be changing and developing accordingly. Central task is a part of all the whole work, so it is neither the whole work nor all the work. And it is important only in some stage.

In addition, basic research will lead to the production of new knowledge and it has become the guide of technological progress [2]. Therefore, basic research is the foundation of teaching and research in universities and it is long-time, lasting and continuous too. It has been providing supports and services to the central task. Basic research maybe become to central task at some stage, such as in the beginning of a new research program. However, the characteristics of basic research make it impossible to be a central task all the time.

In the research synthesis of Hong Kong, the research process is divided into four stages: retrieving and collecting data, filtering and evaluating data, analyzing and interpreting data, expounding and showing results. Each stage is essential and each one could be a central task at a certain stage. Actually, each stage is running through the whole work. That is to say, one of them is the central task while other works are also being carried out simultaneously. Taking the stage of retrieving and collecting data as an example, it is a basic work in the whole research. In the early stage of the project it occupies the main position, so it is the central task of the work. It will directly lead to the deviation of the following work that retrieving data is not detailed and scientific and collecting data is not sufficient and comprehensive.

To retrieve the Chinese Knowledge Resource Database of Cnki.net, the condition of time being set from Jan 1, 1997 to

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This research was financially supported by the 2014 Hong Kong and Macao Research Project Fund from the Chinese Association of Hong Kong and Macao Studies (Grant No. HKM1407), the 2014 Work Innovation Project Fund on the subject of Ideological and Political Education from the Dep. of Guangdong Education (Grant No. 2014ZK003) and the 2015 Innovation Project Fund on Social Science of Zhuhai College of Jilin University (Grant NO.2015KYSXJ037).

Dec 31, 2015, the condition of retrieving being set as topic, title or full text respectively, the keyword being set as Hong Kong, the numbers of results by the query are 201856, 76543 and 2388136 accordingly. At this stage all the data needs to be downloaded, collected and sorted up. When the stage ends or is close to end, the central task will shift to the stage of filtering and evaluating data. The stage of retrieving and collecting data will not be the central task any more, but it needs to be continued, such as collecting the data of 2016. So we can see that central task is dynamic and changing.

Those who have the error of ‘Only Central Task’ will expand the concept and the scope of Central Task wrongly and define the whole work as the central task. The main cause is that they cannot distinguish the major and the minor, discern the primary and the secondary, and identify the important and the unimportant. Because of their conformism and inertia they might think mistakenly central task is fixed, even if the internal and external environment has changed tremendously.

### B. Central Task is Definite and Specific in Big Data Era

Central task is an important work that it promotes the overall progress of any university continuously in each developing stage. It is needed to have accurate work ideas, set clear work objectives, contain specific work contents and test real work abilities. Central task should not be just a slogan, a title or an idea. Before decided, it should be well planned, designed, studied and analyzed.

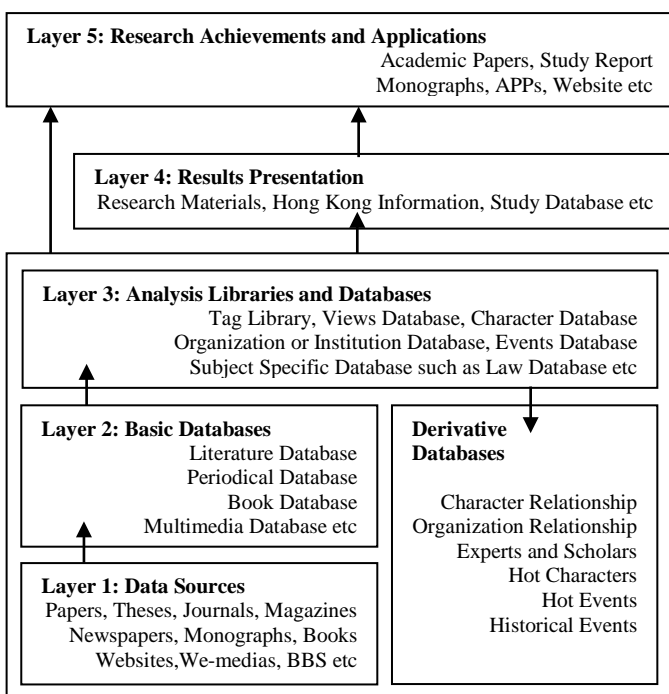


Fig. 1. Structure of the Data Application Platform

Central task should not be abstract, superficial and ambiguous either. Before implemented, it is needed to analyze requirements in detail, study feasibility argumentation, carry out outline design, make elaborated plans, identify explicit objective and establish evaluation standard. Sometimes, it is

necessary to consider emergency situations and unforeseen incidents. Therefore, it is needed to make response plans and design contingency plans.

In the research synthesis of Hong Kong, except making common leadership framework, organization structure, implementation architecture and research scheme, designing the structure of the data application platform is needed too. Figure 1 shows the structure. The structure of data application platform has five layers from the bottom up.

1) *The first layer is the Data Sources Layer.* Data sources could be papers, theses, journals, magazines, newspapers, monographs, books, websites, we-medias, BBS, study reports and other research resources databases etc. Data formats include electronic data and paper-based data. There are two types of electronic data formats, structured data and unstructured data [3], such as text, picture, table, video and audio.

2) *The second layer is the Basic Databases Layer.* It comes into being after retrieving, collecting, filtering, evaluating and classifying data from sources. It could have many sub-databases, such as literature database, periodical database, book database, multimedia database etc. There are many types of basic classification about the contents of the databases. For example, there are Hong Kong, Macao, Hong Kong and Macao, Hong Kong & Pearl River delta etc according to the region classification, and there are Politics, Economy, Law, Society, History, Culture, Education etc according to the subject classification.

3) *The third layer is Analysis Libraries and Databases Layer.* It comes from dealing with basic databases further. According to the content of data analysis, the specific sub-databases could have Tag libraries, Views database, Character database, Organization or Institute database, Events database and Subject specific database such as Law database etc. From the above databases, new databases can be derived based on different relations. The derivative databases include Character Relationship database, Organization Relationship database, Experts and Scholars database, Hot Characters database, Hot Events database and Historical Events database etc. And these databases can be related with each other by tags, keywords, relations and other factors.

4) *The fourth layer is Results Presentation Layer.* It is used for showing the research results for Layer 1 to Layer 3. But it is a preliminary study results presentation layer compared to the fifth layer. For example, it can generate the functional modules of resources links and data downloading according to the collected data on the first layer, and build up Hong Kong Basic Information Database Platform according to the second and the third layers. The Results Presentation Layer can be also called Function Display Layer, and it is the main user interface. It is the embodiment of the system function and effect, so it must not only be applicable, useable and practical but also rational, professional and customizable [4].

5) *The fifth layer is Research Achievements and Applications Layer.* Based on the former four layers, different research achievements and applications will be made according to different functional requirements. For instance,

governments generally ask for study report about political views, economic development and social problems, whereas ordinary people like encyclopedia information about business, entertainment, consumption, tourism, history, geography and other livelihood information. The concrete representation forms can not only be mobile Apps or websites, but also reports, articles, theses, monographs, books and other paper-based ones.

The above five complex layers comprise the structure of the entire data application platform. This shows that the central task should be definite and specific.

Those who have the error of ‘Only Central Task’ will shrink the concept and the scope of Central Task wrongly. They might even think that central task is to grasp the central idea and can be done well with correct central idea. Because of neglecting details of work, problems and loopholes appear one after another in the follow-ups. Consequently, the whole work will suffer a severe failure, and it could bring adverse impact on the university. The main cause is that they are lack of basic work experience, doing work imprecisely and short of work ability.

### C. Central Task is structured and hierarchical in Big Data Era

Central task needs to be divided into levels according to structures and hierarchies because it’s complex and systematic. As discussed before, central task is dynamic and changing, so the process of work is split into four stages. This is actually layered by the work procedures. As well, because central task is definite and specific, implementing central task requires making much architecture, structures or frameworks, which are also divided into different levels or layers. Thus sophisticated questions are being dismantled and simplified level by level.

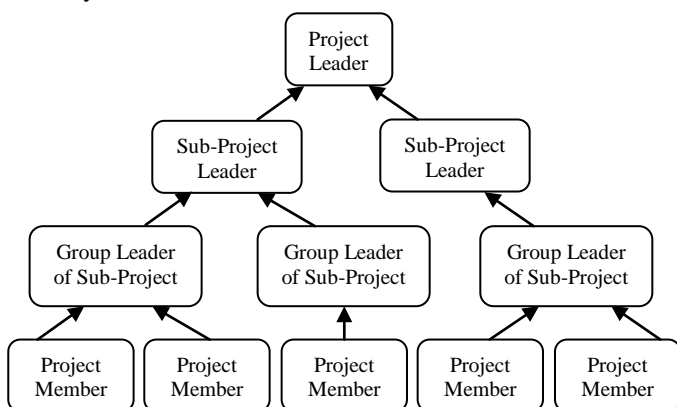


Fig. 2. Simple Structure of a Project Team

In the research synthesis of Hong Kong, the organizational structure of the project team members is also structured and hierarchical. A simple structure of the project team is as follows. The first layer or level is Project Leader who is responsible for directing, guiding, supervising and coaching the whole project. The second layer of level is Sub-Project Leaders who are responsible for decomposing tasks further, designing lower-level modules and managing them. The third

layer or level is Group Leader of Sub-Project who are responsible for decomposing lower-level modules again, designing specific modules and managing them concretely. The fourth layer or level is Project Member who are implementing the project in detail. The former two layers can establish main leadership structure which usually deals with major issues. The former three layers can establish extended leadership structure which deals with general important issues. The second layer and third layer can also establish middle leadership structure which deals with common issues. Figure 2 shows the simple structure of a project team.

Those who have the error of ‘Only Central Task’ are usually not willing to divide a team or an organization by layers or by levels and they want to manage everything. The main cause is that they are lack of leadership ability and organizing skills. This does not lead to problems when a university, a team or a project is small. However, when they become bigger and bigger the situation of no levels or no layers will bring serious disasters to the organization or team and lead to the failure of the project.

### III. THE FOURTH WORK SKILL: ABILITY OF CENTRAL TASK

It is generally agreed that doing work well requires three basic skills, which are leadership, creativity and execution. A teaching and research work in universities is of hierarchy, systematicness and structure, which decides that various organizational architecture presents a triangle top-down. So the three basic skills do. The left picture of Fig 3 shows the triangle.

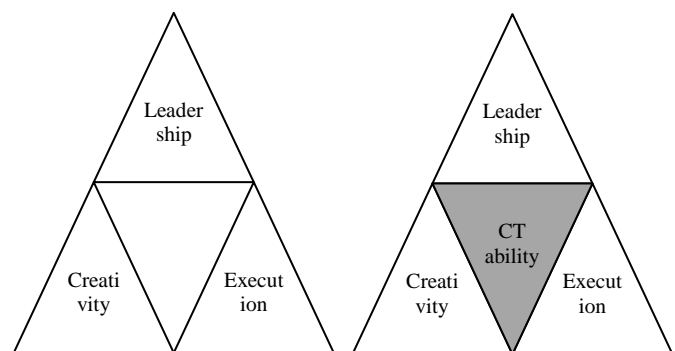


Fig. 3. Three traditional work skills and four work skills in Big Data era

However, even if a university has the above three skills very well, it often occurs that it did not get the work done well or failed in its work. The main cause is that central task was not done well. That is to say, it is because of lacking of the ability to understand central task correctly and handle it scientifically. The new fourth skill is called Ability of Central Task abbreviated as CT-Ability. Therefore, in order to improve the work efficiency and work quality in Big Data era, the four skills are needed indeed. The right picture of Fig 3 shows the four work skills at present.

CT-Ability was just not put forward in the past, but it was not that there was no it in universities. It was generally split into one part of the other three basic skills actually. Every

another skill had some specific abilities which belong to CT-Ability. These abilities comprise the new fourth skill CT-Ability.

1) *Leadership had the identification ability, decision-making ability and supervising ability of leaders for central task.*

2) *Creativity had the adaptive ability, innovative ability and developing ability of team and members for central task.*

3) *Execution has the implementing ability, executive ability and performing ability of team and members for central task.*

The three traditional skills are relatively abstract in concept. Moreover, they are independent of each other. CT-Ability is a concrete skill and becomes the link and bond of the other three. The three traditional skills are around CT-Ability. In the teaching and research CT-Ability should be made good use of. Only in this way, can we mobilize all the skills coordinately and fully in order to avoid work error, ensure work quality, improve work efficiency and make work achievements.

#### IV. HOW TO DO CENTRAL TASK WELL IN BIG DATA ERA

In summary, how to do central task well in Big Data era needs to pay attention to the following four aspects.

1) *Understand central task correctly.* Central task is really important, but it is still one part of the whole work or all the work. We cannot exaggerate it as the whole work or all the work and neglect other work. And we cannot take a basic long-term work as central task for the small collective's interests so as to have an adverse impact on the real central task or the whole work.

2) *Improve the CT-Ability proactively.* CT-Ability is the prerequisite and foundation to do central task well. But it is very different from the leadership, the creativity and execution. CT-Ability needs to be learned and improved by all the members including leader, teachers, researchers, executives and students in universities. Especially in the process of teaching and scientific research, it is critically important to cultivate the CT-Ability of students.

3) *Strengthen the innovation of central task.* In the information technology society of the Big Data era, along with the development of the new environment of Big Data, the new concept of Internet Plus, the new orientation of the Belt and Road Initiative and the new requirement of the Structural Reform of Supply-Side, central task in university of China and

abroad should grasp trends accurately, adjust directions timely, renew ideas promptly and update strategies seasonally.

4) *Attach importance to the construction of leadership.* It is not very difficult to cultivate creativity, strengthen execution and improve CT-Ability. However, whether the above three skills can play a normal role or not, which depends on the leadership in universities. Leadership is to influence others and not to control others. And it includes the aspects of decision-making ability, using-person ability, communication ability, executive ability, strain capacity and cohesion ability etc. In addition, it also needs charming personality, learning and critical competence, reform and innovative capacity [5]. Under the current circumstance, the other three skills can function according the leader's supervising and commanding. And at present the main cause of central task problems is the lack of educational leadership. Consequently, it is very important to improve the construction of educational leadership now.

In order to do a good job, leadership is the crucial part, execution is the guarantee and creativity is the foundation [6]. After recognizing the important of central task in universities, in order to do it well under the Big Data environment, we should pay more attention to the role of CT-Ability and improve it continuously.

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