

# SEVENTH EAST ASIA CONGRESS

6-8 December 2009  
Kuala Lumpur, Malaysia



## SESSION THREE

**“Where is East Asia in the Knowledge  
Race?”**

by

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## Upgrading Knowledge Competitiveness is the New Mission of Higher Education

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**Abstract:** In the era of knowledge economy today, social development and progress are much more relying on higher education institutions than ever before. Besides the three familiar missions of "training capable persons", "doing research" and "serving the society", in the tussle of knowledge race in East Asia, a new mission for HE has been added, i.e., upgrading knowledge competitiveness. To attain this target HEIs should aim at innovation of HE, accumulation of knowledge capital, ability-building of human resources, and blossom of boundless HE.

**Key Words:** knowledge competition; exploitation of human resource; higher education innovation

### Introduction

The concept "knowledge competitiveness" is used internationally to label the ability of changing knowledge capital and human capital into the production of a knowledge-based economy<sup>①</sup> and social wealth of a region. The basis of this wealth is human capital and knowledge capital. Knowledge competitiveness has become the foundation of the allround competitiveness of individual countries, and this has tremendously influenced the countries' competitiveness in military affairs, politics, culture and many other aspects of these countries. The American economists, Theodore W. Schultz and Gary S. Becker created the theory of human capital in the 1960s. They thought that this theory has two central viewpoints: (1) in the progress of economic growth the effect of human capital is huger than that of material capital; and (2) the main part of human investment is the promotion of the quality of the population and education investments.

Without any doubt, in this era of knowledge-based economy, in which economic transformation as well as economic growth are warp and weft, education has attained a key position. Indeed, education became a basic instrument to develop human resources. The system of higher education (HE) has become the "axial structure" in our society, by Daniel Bell called the post-industrial society, and higher education institutions (HEIs) have become the

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<sup>①</sup> Knowledge economy is short for "knowledge-based economy". In the report of "Knowledge-based Economy", the Organization for Economic Co-operation and Development (OECD) gives following definition: "the economy directly rely on the production, distribution and usage of knowledge and information".

"axial organizations" in this society. As "axial organizations", HEIs are so important for our existence, development and prosperity, that all countries have paid more attention and offered more support to them than ever before.

As everybody knows, the training of capable persons, scientific research, and social service are the major recognized HE missions at present. With the gradual progress of HE entrance into the center of society, various new paradigms have presented themselves in the system of HEIs and at the same time the connotations have changed, too. Early in the 1990s, Professor Smith from the University of North Texas (U.S.A.) discerned the following four modes of a university: "I endeavor to put forward the following 4 university modes: as a company, as an ideology agent, as a social service organization and as a scholar consortium". These four modes of a university make clear that the traditional description of a university: a four-year long education system of students, living on campus, classroom-based teaching as undergraduates' education, graduates' education differentiated in academic fields and colleges, teaching staff mainly engaged in training capable persons by teaching, doing scientific research and service to society—— is not enough to describe HE.

Since the founding day, universities have influenced the society to a certain extent. With the social progress, the functions of HEIs have evolved, the connotations have been continuously extended, showing the university developing from singularity to diversity, from scholasticism to socialization, from the education value of "training capable persons" to the double ideal of Alexander von Humboldt's focus on both, scientific research and teaching, and then finally directly to the idea of serving the society learned from Wisconsin University in the U.S.A. in the 1960s, which is the symbol of the evolvement of the HE function. In the 21<sup>st</sup> century, the era of knowledge-based economy, knowledge economy with the characteristics of knowledge as the foundation, science and technology as the engine, innovation as the motivity, educational human resource as the first resource, has brought for HE many opportunities and challenges, and at the same time has determined the development of HE: promoting knowledge competitiveness as the new mission of HE. Answering the question how HE should shoulder the important historical mission of promoting knowledge competitiveness is a key issue for our HE research.

This paper will show that the new mission of HE is the upgrading of knowledge competitiveness. In order to attain a position in the knowledge race for East Asia, we need to support 4 basic ideas: (1) innovation of HE as the producer of motivity, (2) accumulation of knowledge capital, (3) ability-building of human resources, and (4) blossom of boundless HE.

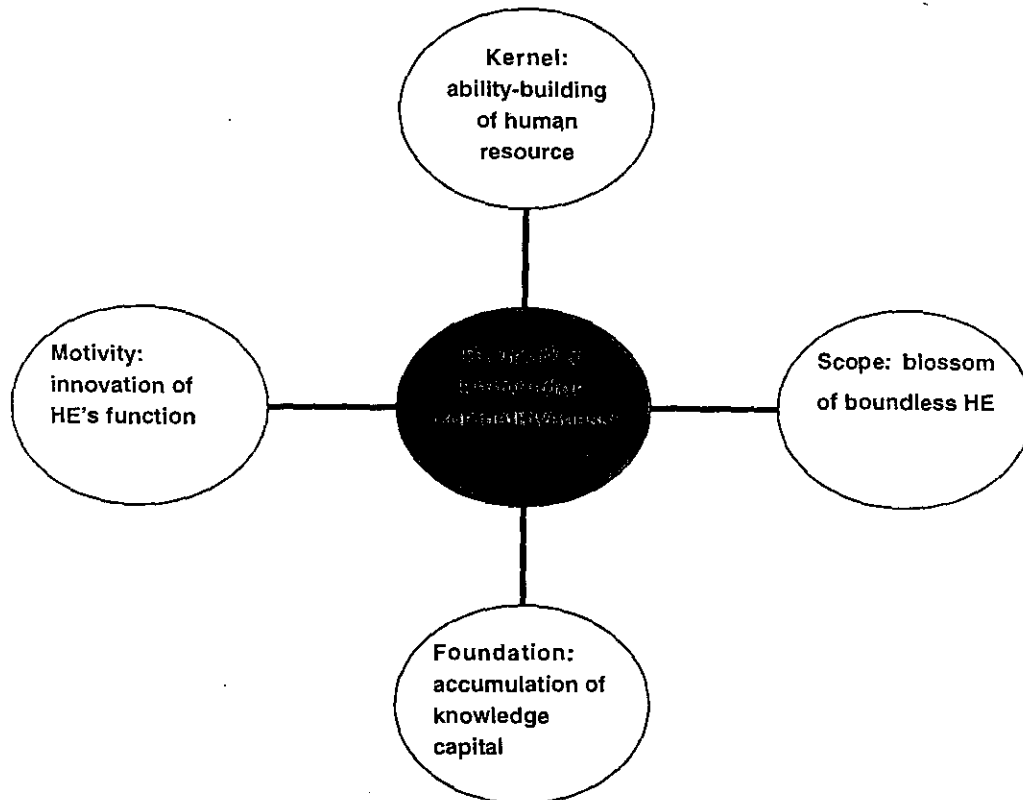


Figure 1 The 4 basic ideas of HE's upgrading knowledge competitiveness

### I. Innovation of HE as the Motivity of Knowledge Competitiveness

Probing into HE's function is an old but everlasting topic, not only showing a university's grandeur and holiness like "macroscopical narration", but also expressing people's "Utopia" complex to a university. A university, often called a "tower of ivory", is one of the most conservative organizations. Clark Kerr, a former president of University of California (U.S.A.), made a survey on all the organizations before 1520 A.D. all over the world, found that among those organizations that still use the same names, do the same things the same way, only 85 survived, among which 70 are universities, while the other 15 are religious organizations, which shows that a university might be a stable and ever-lasting organization. Though today's university still has its stability and relatively independence, it is no longer the "tower of ivory", nor is it living outside society. In our knowledge-based economy, universities have become the source of innovation and have contributed to social progress.

Innovation is the soul of a knowledge-based economy. The main difference between humankind and animals is that humankind has the ability to create. Incessant creation is the inherent need of humankind's self-existence and development. Only with the ability of creation, can humankind incessantly evolve and continually make progress. As a consequence the innovation function should be added to the HE agenda.

The education function is an expression of the present and future need of individuals for education. During the historical development of higher education, universities make incessantly choices and embark on innovation, along with the need of science and technology and economic development. At the beginning of the knowledge economy, there was a "re-construction of the function system" of the university, and gradually universities contributed to

the social economic development of society, and constituted a new function of HE, impelling at the same time the development of the knowledge economy. The re-construction or the creation of this HE function at least consists of the following 3 aspects:<sup>①</sup>

### **1. HE as the source for motivity of intelligence**

Intelligence is the most fundamental and deep-seated motivity source in human society, catalyzing the development source of social production. In our knowledge economy, with the development of a new-generation industry of information, science and technology, along with the production and expansion of intelligence and knowledge, a very intelligent brain that can engender incessantly new ideas and integrate efficiently various resources, will play a much more important role. HE must take an active part in society, work as brainpower in decision consultation for the whole society, provide technology service and intelligence support for economic and social development, making HE the think tank for social economic development.

### **2. The function of HE as an "incubator" and "engine"**

HE, especially key universities, is not only the "source of knowledge creation", the "bank of capable persons", the "disseminator of culture", but also the "incubator" and "engine" of the development of high-tech production. <sup>②</sup> The function of HE as an "incubator" and "engine" has 2 characteristics: (1) HEIs have become the cradles and seedbeds of high-tech's innovation, its growth and utilization; and (2) a lot of industry parks are scientifically supported by universities and flourish and develop very fast.

### **3. The bridge function of HE**

The obvious characteristic of modern high-tech economy is that high-tech staffs have become the main labor force. Training these "knowledge workers" implies specialized vocational education. The faster the economy increases, and the higher the social development, the stronger the marketization will be, the more need there is for decision-makers and managing staffs, and the more important the contribution of HE is to train this staff.

Education plays important roles in humankind's cultural development. One of the roles of education is the creation and innovation of knowledge. The knowledge creation function benefits from the typical university structure where new information and academic thinking is exchanged, and where enthusiasm for innovation and openness for academic freedom may be found. Therefore, the president of the University of California at Berkeley (U.S.A) said, that a university "seeks new thinking and new knowledge", always "stands in the most anterior line of criticism" and is a "foreland with creation ability". No doubt, in the knowledge society, the innovation of knowledge is an important function of HE.

## **II. The Accumulation of Knowledge Capital: the Premise of Knowledge Competitiveness**

A knowledge society is a knowledge-based society. Knowledge has gradually changed from the exterior to the internal of social development and from the brink to the center of the

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<sup>①</sup> Xie Zuoxi, Bie dunrong, Wu Yiyon, Huang Jianru. The Change of higher education in the Era of Knowledge Economy [J]. Modern University Education, 2007 ( 5 ) .

<sup>②</sup> Xia Zaixing. On the Four Economic Function of Higher Education [ J]. Journal of Xianning Teachers College, 2002 ( 1 ) : 3.

society, which provides the explanations to the world's modes in social origin, motivity, factor, track and others. In modern society, HE still has the main functions of preservation, transmission, and creation of knowledge capital.<sup>①</sup>

### **1. Preservation of knowledge**

Because scientific knowledge is often seen as "value-free", it is often considered being true, and as public wealth should be cherished and shared. As a place where deep learning is discussed, no doubt, HEIs have the important function of the preservation of knowledge. University libraries have played a crucial role in the preservation of knowledge. They are not only the organizations that preserve a wealth of knowledge, nor do they only fulfill the indispensable task to communicate knowledge in the communication chain of knowledge, but they are also one of the composing parts of the HE system, that is necessary for high quality teaching and research. Explicit knowledge is usually preserved by such means as libraries, labs, and multimedia, while tacit knowledge is mainly preserved in the scholars' brains. Universities are composed of learned experts and scholars whose tacit knowledge cannot be preserved in libraries. So we can say that knowledge exists both in life carriers and non-life carriers. Without the tacit knowledge of the scholars' brains in HEIs, knowledge in society is incomplete.

### **2. Transmitting knowledge**

Knowledge transmission has 2 meanings in Chinese: one is "chuan ( 传 )", which means "transmission" of the present culture and researches in order to be shared in the world, emphasizing the broadness of space, namely, "the expansion of knowledge"; the other is "cheng ( 承 )", which means "hand-on" the predecessors' knowledge, thinking and cultural production that is passed down from generation to generation, emphasizing the succession of time, namely, the "heritage of knowledge". Teaching in HEIs is the most important manner of knowledge transmission. It transmits the best cultural production that is accumulated in human civilization for ages, by teachers' "teaching students' knowledge, telling students the way to live and answering students' questions" (a famous sentence from the article of "On Learning from Others" by Han Yue, an educator in Chinese Tan Dynasty). By training capable persons, HE realizes the target of knowledge transmission. Capable persons' acquired knowledge in HE directly enter such domains as social politics, economy, culture and other fields. As one kind of "knowledge intensiveness", once "capable persons" step into society, they become "knowledge nodes" which can naturally converge into a mass and at last into a "knowledge source". This means that they become a social knowledge colony or a knowledge stratum that takes care of knowledge expansion or knowledge radiation. In the era of a knowledge society, diplomas acquired by learning have become the passport to society. To some degree, HE all over the world has on its shoulder the function of knowledge transmission.

### **3. Creating knowledge**

Of all times, since the founding of HEIs, academic and scientific research activities have been conducted. The neoteric universities, influenced by the von Humboldt's university type, are research universities that focus on scientific research, and promote science and technology, as

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<sup>①</sup> Yan Bingfeng. Knowledge Society: Re-consideration of the Function of Higher Education [J]. Journal of Hebei Normal University, 2003 ( 5 ) .

well as the creation of culture and knowledge. In the era of fast development of science and technology along with an explosion of knowledge, the impelling force of the knowledge society continuously and vividly expands the function of knowledge creation in universities. The university is a place of knowledge production. Seeking for knowledge is the self-evident goal of an academic career. Much knowledge does not attain a complete or a final conclusion. Consequently teachers and students have to continue research and create knowledge. New knowledge is created by discussing, communicating and understanding various cultures and thinking, and this makes societal progress possible and promotes cultural development. HE trains students' character and improves their capacities by transmitting specialized knowledge. Later on, HE delivers these capable persons to society, and each in his own position is engaged in all kind of activities that "radiate" knowledge in society. No doubt, knowledge creation is the most energetic and vital function of higher education in a knowledge society.

### **III. The Ability-building of Human Resources: the Kernel of Knowledge Competitiveness**

The economic development all over the world proves that human resources are the most valuable resources to promote economic development. The usage of human resources is the best approach to increase economic efficiency and add social wealth. The best known example of this phenomenon is found in the fast growth of the economy of the "Four Asian Tigers" (Korea, Singapore, Hong Kong and Taiwan). Based on such aspects as population, area and natural resources, these four countries and regions are "inborn undernourished have-nots". However, they have reached economic prosperity and grew up in the Orient only a short period of time after World War 2. The whole world is struck on them and praises them for their important influence on the economy and on the development of international relationships, international affairs, international finance and international trade. Seeking for the reason of this wonderful achievement, observers came to the same conclusion: the main reason for the economic prosperity of the "Four Asian Tigers" can be found in their special attention for, huge support to and fast development of education. Not only these countries but also the individual citizens invest a tremendous sum of money in education in order to raise the level and quality of education. In this way, they build the citizens' ability to store-up, open-up, and use human resources. It is clear that the knowledge accumulation and intelligence support from highly-trained citizens guarantee this economic development and fast growing affluence.

In recent years, people are no more unacquainted with such concepts as human resources, exploitation of human resources, but for the majority, "ability building of human resources" is still a new and unacquainted concept. Generally speaking, by means of education, training, encouragement, and employment, we can consider "ability building of human resources" as opening up persons' potential, raising persons' quality, mobilizing their enthusiasm, bringing persons' potential into play, increasing the ability of knowing and changing nature for both an individual and a group, in order to promote the social progress and the all-round development of an individual. It is very similar to "exploitation of human resources" in its broad sense, but their goals, keystones, and perspectives are different. The exploitation of human resources takes an economic standpoint and considers persons as objects, sees them as a substantial resource (such as the products made in a factory), while ability building of human resources considers human resources as persons and their main goal is increasing persons' ability. Ability building of human resources emphasizes particularly the ability of humans. The process of ability building of human resources is one of the methods to train a persons' ability, a new ideal of exploitation of

human resources. To attain the most important objectives of ability building of human resources, four abilities should be supported.

### **1. Students' study ability**

We refer to the word "study" almost every day, but we might have very different ideas about study. For most people, the word "study" is often related to the activities in "school" or "learning in order to pass some exams or quizzes". In this paper the word "study" not only refers to exams in schools and all that is related to this, but it also refers to the process of mastering discipline knowledge, the ability of acquiring new knowledge and to carry on new practical actions by various study measurements. In the current stage of economic development, acquiring knowledge and information by Internet is one of the study abilities that are specially strengthened. Students' study ability is the foundation of ability building of human resources.

### **2. Students' creation ability**

Innovation ability means the ability to innovate knowledge. Building students' creation ability should be focused on a three-dimensional target: (1) the dimension of "knowledge techniques": the techniques of innovation should be numerous and of high quality; (2) the dimension of "innovation thinking": innovation activities still need adopting such thinking methods as analysis, synthesis, comparison, abstraction, generalization, embodiment and systematism, but comparing with other thinking activities, innovation thinking has a special feature: both logic and non-logic thinking, and both dispersive and convergent thinking are needed, i.e., a circular process of dispersion – convergence – redispersion – reconvergence; (3) the dimension of "innovation personality": an innovating personality should have the strong willpower to overcome difficulties, to pay close attention to various problems in nature and in society, and to go-ahead incessantly and seek for new founding. Innovation ability is the kernel of ability building of human resources. <sup>①</sup>

### **3. Students' adaptation ability**

The adaptation ability is the self-adapting ability in order to adapt the environment and social ability to the habitation and environment. The evaluation index of adaptability mainly includes environment adaptation, interpersonal adaptation, and individual adaptation. Environment adaptation mainly consists of information collection, information discrimination and survival ability. Interpersonal adaptation mainly consists of the connotation, the methods, the deep, the width and the effect of the interpersonal communication. Individual adaptation mainly consists of 2 aspects: (1) individuals should be aware of competition consciousness, combat spirit, adventure spirit, team spirit, collaboration consciousness; and (2) individuals should also have knowledge of individual behavior as frustration, competition, collaboration, self-study ability, and modern ways of living <sup>②</sup> Crocodiles' species imperishability and chameleons' color-changing self-protection are some examples of the adaptation ability of animals. The message is: adapt to the society, or you will be eliminated cruelly. Adaptation ability is the guarantee for ability building of human resources.

### **4. Students' competition ability**

Competition is an instinct that is inherently injected into mankind's blood by biologic evolution, mainly referring to the strategy and method of competition, especially to the

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<sup>①</sup> Jiang Lihua. Three-dimension Goal of Training Students' Innovation Ability[J]. Education Science, 2008 ( 2 ) .

<sup>②</sup> Wen Lan, Lu Fenghui. The Evaluation Index System of Students' Society Adaptation in Curriculum of Physical Education [J]. Journal of Physical Education, 2007(6).



competition idea of establishing a "win-win" situation, because modern social competition is not always a "life-and-death" competition, but often a "win-win" competition based on the methods of cooperation, teamwork, and alliance. Living in a competitive society, competition can be found everywhere. Therefore we should train students to acquire competition consciousness, let them know the cruelty of competition, and engage them actively in competition. Only this way, students can survive in our modern society. Competition ability is the strategy of ability building of human resources.

#### **IV. The Blossom of Boundless Higher Education: the Scope of Knowledge Competitiveness**

On the macroscopical background of globalization, with the fast development of information and communication technology ( ICT ) as well as the advancement of the tidal wave of education marketization, various borders of traditional HE, whether national or regional, whether institutional or idealistic, whether mental or physical, are all in the transition to "boundlessness".

Today, the reform of HE has gradually entered a new stage of "boundlessness", namely, getting across both the traditional institutional and regional borderlines in the traditional mode in space as well as in concept, which makes that HE's borderlines become much more confused and penetrable. The word "border" refers to the boundary between countries or regions. If the HE border is like a fixed and stiff wall, it will block the mobility of such factors as information, knowledge, innovation, exchange of capable persons in the world, and a lot of problems will emerge.

"Boundless higher education" refers to an opening-up HE ideal, where exchange and communication of ideas cross the border of the institutions. It does not mean completely removing the border and being in a state of boundlessness, but means that we do not allow the border as an unchanging partition to petrify HE. We have to find a balance between "haves" and "have-nots", hoping that HE organizations will efficiently work. In the first Global Forum of Quality Assurance of Higher Education in 2002, Robin Middlehurst from the University of Surrey in the United Kingdom pointed out that "boundless higher education" referred to the following 4 aspects: (1) from the perspective of the education type: the appearance of such non-regular education as adult continuing education; lifelong education broke the borderline of studying in regular and non-regular HEIs, mainly accentuating the acquirement of the opportunity of lifelong education; (2) from the perspective of the public and private HEIs: the appearance of private HEIs, especially some private and commercial education services that want to make profit; they broke the borderline of the concept of traditional HE as a "public product"; (3) HEIs cross the border of countries and regions; for example, new company universities established by enterprises, public departments and HEIs, education services at home and abroad supplied by cross-national associations and various cooperatives; and (4) HEIs cross the border of time and space by offering long-distance education, online study activities and various virtual universities. <sup>①</sup> This shows that "boundless higher education" encompasses a wide variety of items. At present, boundless HE at least covers the following 4

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<sup>①</sup> Zhang Baorong. Boundless Higher Education: the New Ideal of Higher Education the Developed Western Countries [J]. foreign country education research, 2005 ( 12 ) .

aspects:

### **1. Boundlessness of HEIs**

Boundlessness of HEIs emphasizes the cross-national and cross-campus cooperation of HEIs, mainly including 3 types: (1) branch campuses; for example, Malaysia has a Branch Campus of the Australian Monash University, a Branch Campus of the Australian Curtin University of Technology, a Branch Campus of the British Nottingham University, etc.; (2) a twinning program; for example, the cooperation programme between the University of Warwick in the U.K. and Chulalongkorn University in Thailand, and the James Cook University in Australia has established a joint-school in Singapore, and an "International MBA Cooperation Project in China", etc.; and (3) off-shore institutions; for example, Monash University in Australia has founded an off-shore institution in Malaysia and in South Africa to provide education service for the local students.

### **2. Boundlessness of learners**

Boundlessness of learners refers to students' cross-boarder mobility, which already appeared early in the Middle Ages, namely, when students studied at foreign universities. The use of Latin as teaching language facilitated this mobility. Today, many sorts of students join in the range of boundless HE, including the students who in their home country enjoy education provided or recognized by a guest country, the students studying in their home country for some time and later on in one or more guest countries for a period of time, the students studying far away from the campus in the home country, etc.

### **3. Boundlessness of curriculum**

Boundlessness of curriculum refers to the cross-boarder mobility of a curriculum. This is an obvious and peculiarly mobile phenomenon of boundless HE. In this form of boundless HE the physical position of the students remains unchangeable, but supported by Internet technology, the curriculum has been exchanged between countries. A student can study in his own home country the curriculum provided or recognized by a guest country, listen to a series of lectures given by a guest professor on a virtual campus, etc.. Twinning programs, branch campuses established in a foreign country, and "online" curricula developed by information technology, will become the main tendency of the future development of boundless HE.

### **4. Boundlessness of study**

Boundlessness of study refers to the expansion of the learning contents and the scope of learning. It is a study method in which the binary structure of "in class" and "after class" teaching and learning in the traditional curriculum is merged, and that focuses on mankind's life and experience, recomposes students' individual "biography experience" and promotes students' self-construction. It emphasizes the ideal of the learners as the center. It exceeds the traditional study space, time and contents that have been disconnected subjectively in the traditional teaching methods. It combines specialized disciplines, nature, society and students' living, and brings students much closer to society, nature and living by observing their essences, and upgrading their quality to reach the education target of multiple development. A good example of this is flexible study. Students can here apply for cross-grade courses, may choose parts of the curriculum of higher grades or others according to their own needs.

Today, we should adopt "boundless higher education" as an important concept to explain the penetration and transcension of the various education spaces, education types, and education organizations at home and abroad. Our final target is to establish a new-type of borderless HE whose bound of institution, time and space is becoming permeable and merged in order to make East Asia take up a common position in the knowledge race.

## **Conclusion**

In the traditional society, the production and transmission of knowledge is difficult and rather small. Independent HEIs, having special rights, can implement their duties, namely the production and transmission of knowledge. HEIs are only the social antennas and decoration whose role it is to transmit high and deep knowledge. The role and orientation of HE is only "higher education in the society". At this time, HE is "the tower of ivory", dissociates itself from the social development and does not have to satisfy the social needs. Therefore the position and the role of HE are relatively independent in the society. In the era of the knowledge economy, things are reversed: the order of society, knowledge and HE has been re-ranked, and the role of HE is not any more the role of "higher education in the society", but "higher education of the society". It is very difficult for HE to deny the social needs and put itself free from society. HE must satisfy and adapt to the needs of the social development. Never in history have "knowledge-based economy" and "knowledge activity-based education" been so closely connected and naturally combined. In the knowledge society, all kinds of activities in HEIs are carried out focusing on teaching and learning concerning "knowledge", and the degree of social dependence of HE has greatly risen. Besides the three familiar missions of "training capable persons", "doing research", and "serving the society", in the tussle of the knowledge race in East Asia, a new mission for HE has been added, i.e., upgrading knowledge competitiveness.

### **Notes on the Author:**

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### **Acknowledgements**

The author is much obliged to the Institute of Strategic and International Studies (ISIS), MALAYSIA, which invited and sponsored the author to the Seventh East Asia Congress: "Position East Asia in a Post-Crisis World" from 6-8 December 2009.

The author has gratefully relied on the comment of Professor Jef C. VERHOEVEN, University of Leuven, Belgium to improve the present version of this paper.



***The Seventh East Asia Congress: "Position East Asia in a Post-Crisis World"***  
*Hotel Nikko, Kuala Lumpur, Malaysia; 6-8 December 2009*

# Upgrading Knowledge Competitiveness is the New Mission of Higher Education



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**Time: 4 00pm - 5.45pm on 7 Dec.2009.**

**Venue: Foyer Grand Ballroom, Level 2 Hotel Nikko, Kuala Lumpur**

# Acknowledgement & Welcome

- Great thanks to **Institute of Strategic & International Studies (ISIS)** (<http://www.isis.org.my>) , MALAYSIA, who invited & sponsored me to the **Seventh East Asia Congress**.



Institute of Strategic and International Studies (ISIS) Malaysia

- **Welcome to Yunnan University** in Kunming, China



I have gratefully relied on the comment of Professor Jef C. VERHOEVEN, University of Leuven, Belgium to improve the present version of this paper.

# Outline of

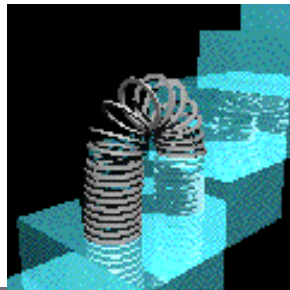
Upgrading Knowledge Competitiveness(KC) is New Mission of HE

1. Innovation of HE as Motivity of KC

2. Accumulation of Knowledge Capital: Premise of KC

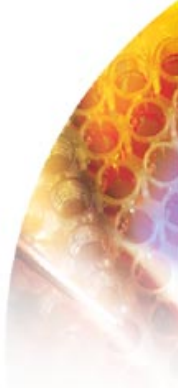
3. Ability-building of Human Resources: Kernel of KC

4. Blossom of Boundless HE: Scope of KC



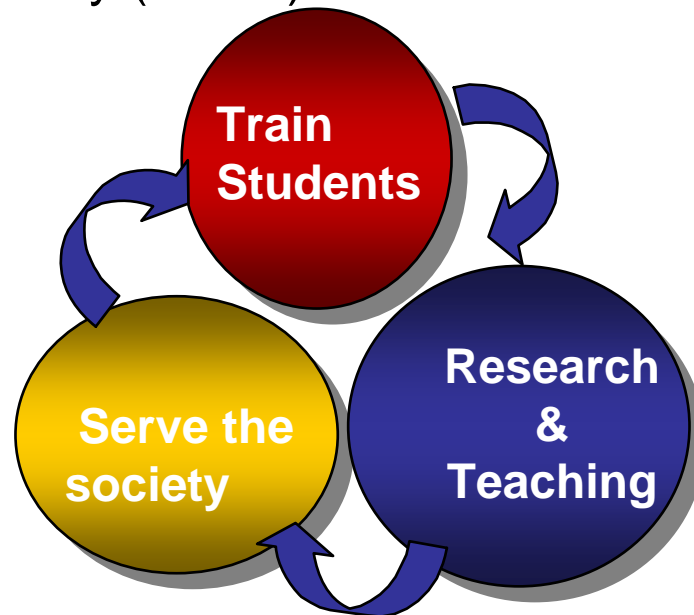
# Foreword

- “**knowledge competitiveness**” is used to label the ability of changing knowledge capital & human capital into the production of a knowledge-based economy.
- T.W. Schultz created the theory of human capital : (1) effect of **human capital is huger** than that of material capital; (2) **human investment** is the promotion of **population quality & education investments**.
- HEIs are “**axial organizations**” in the knowledge society. HEIs are so **important** for our existence, development & prosperity.



# Changing, Changing...

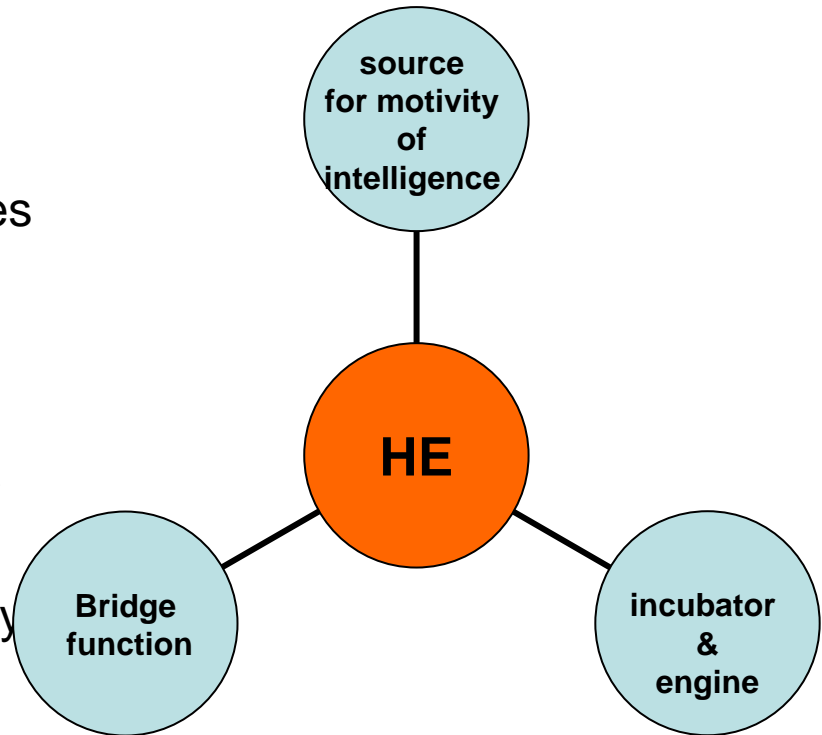
- HE's entrance into the **center of society**, various new paradigms have presented themselves, connotations changed: from singularity to **diversity**, from scholasticism to **socialization**. Smith discerned the four modes of a university: as a **company**, an **ideology agent**, a **social service organization** & a **scholar consortium**
- **Three missions** :from the education value of “**training capable persons**” to the double ideal of Humboldt's focus on **research & teaching**, finally to the ideal of **servicing the society** learned from Wisconsin University (U.S.A)





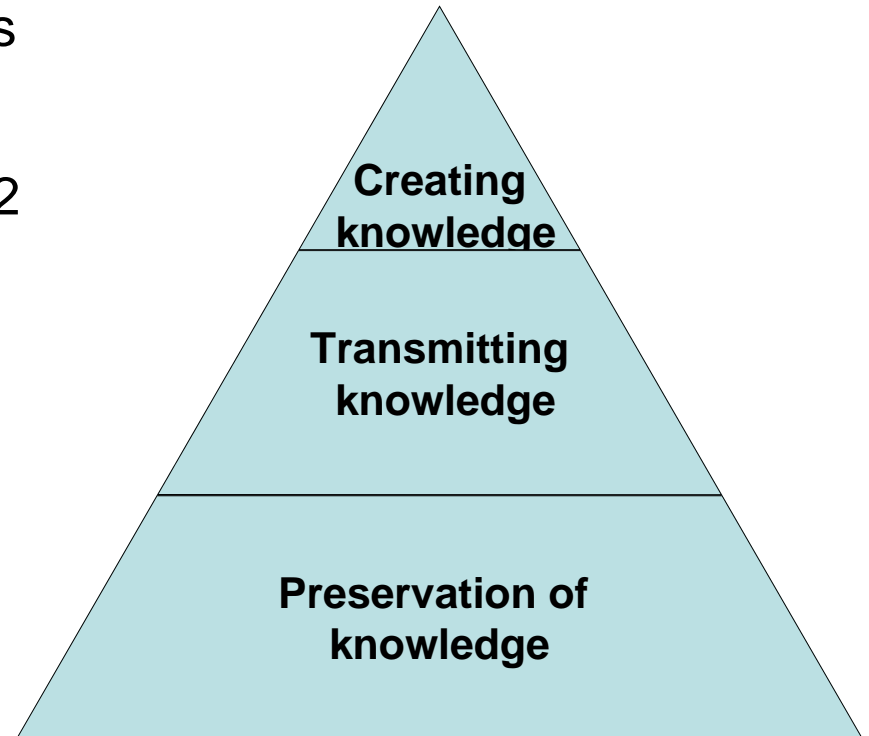
# I. Innovation of HE Function: **Motivity**

1. **HE as the source for motivity of intelligence:** intelligent brain that can engender new ideas & integrate efficiently various resources
2. **Function of HE as an “incubator” & “engine”:** (1) HEIs :the cradles & seedbeds of high-tech’s innovation; ( 2) industry parks are scientifically supported by universities.
3. **Bridge function of HE:** university “seeks new thinking & new knowledge”, “stands in the most anterior line of criticism” & a “foreland with creation ability”.



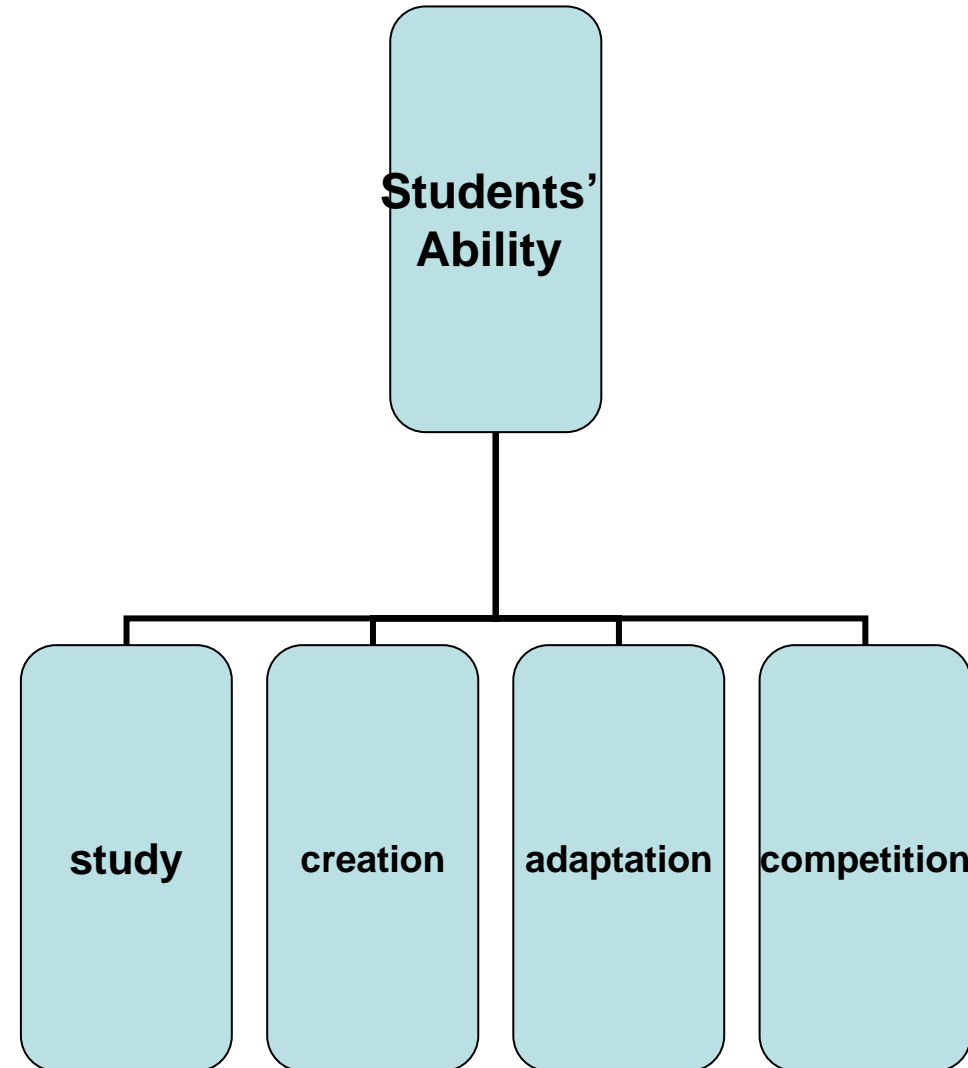
## 2. Accumulation of Knowledge Capital: **Premise**

1. **Preservation of knowledge** : knowledge exists both in life & non-life carriers
2. **Transmitting knowledge**: 2 meanings in Chinese: (1) expansion of knowledge, (2) heritage of knowledge
3. **Creating knowledge**: New knowledge is created by discussing, communicating understanding & thinking



### 3. Ability-building of Human Resources: **Kernel**

- 1. study ability:** exams, process of mastering discipline knowledge, but also all the ability of acquiring new knowledge
- 2. creation ability :**3-dimensional target: (1) “knowledge techniques; (2) innovation thinking ;(3) innovation personality”:
- 3. adaptation ability:** 2 aspects: (1) competition consciousness; (2) individual behavior as frustration, competition, collaboration
- 4. competition ability:** life-&-death & win-win competition based on cooperation, teamwork, & alliance



## 4. Blossom of Boundless HE: **Scope**

### 1. Boundlessness of **HEIs**:

(1) branch campuses; (2) a twinning program ; (3) off-shore institutions

### 2. Boundlessness of

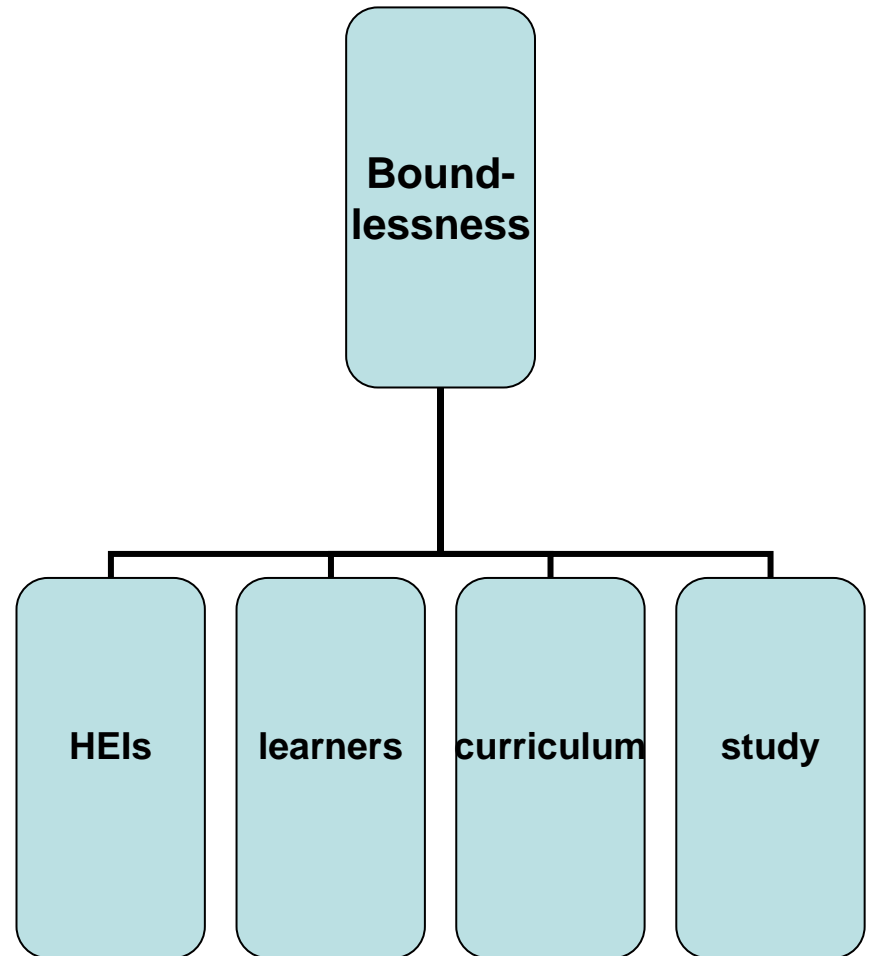
**learners**: many sorts of students aboard, adult, host & guest country,

### 3. Boundlessness of

**curriculum**: a virtual campus , twinning programs, Internet course

### 4. Boundlessness of

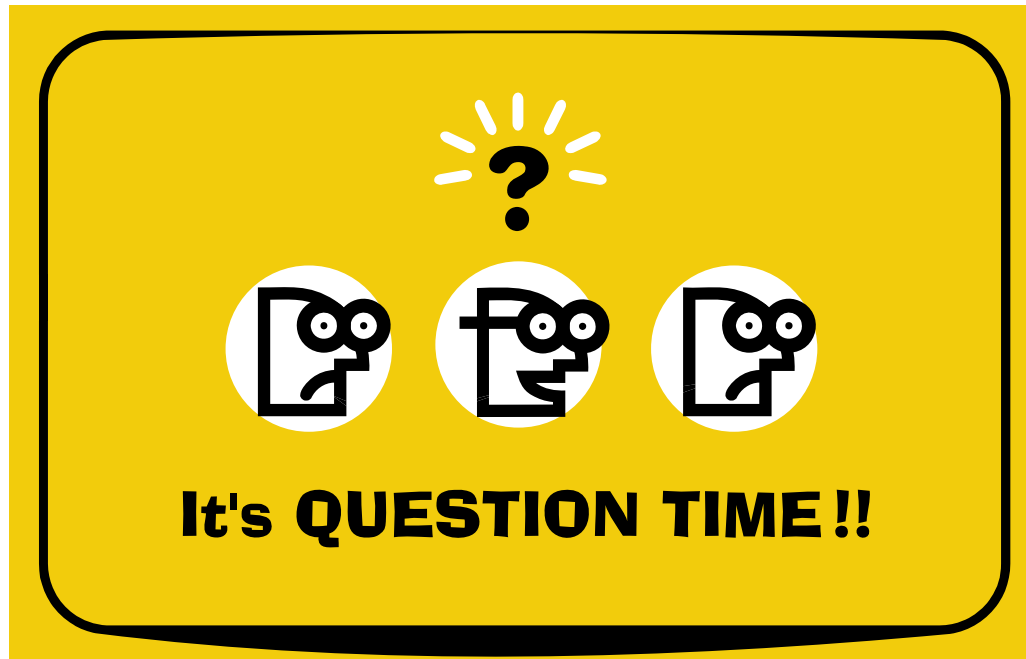
**study**: binary structure of “in class” & “after class” , flexible study



# Conclusion

- Traditionally, HE role is only “HE in the society, independent
- In knowledge economy, HE has changed from “HE in the society” to that of “HE of the society”. Never in history have “knowledge-based economy” & “knowledge activity-based education ” connected so closely .
- In the tussle of knowledge race in East Asia, except for “train capable persons”, “promoting scientific research” & “serving the society”, the new mission of HE must be upgrading knowledge competitiveness.





**Thank you !!!**