

# How to Cultivate the IT Talents with the International Competition Ability in the Flat World \*

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**Abstract:** With development of IT application and economic globalization, the world is becoming flat. In this flat world, how to adapt to this new competition environment for higher education and how to cultivate the IT talents with the international competition ability are the significant issues worth our tremendous attention and recognition. Through exploration and implementation of the multiple development policy for international collaboration, the School of Computer Science and Technology and School of Software in Harbin Institute of Technology are fully engaging in the establishment of the first level internationalized computer education system and the cultivation of IT talents with the international competition ability, so as to enhance the international competition ability of China in this education internationalized flat world.

**Key words:** Flat world; International competition ability; IT talents cultivation; International collaboration

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## 1 Background—The world is becoming flat

The 21<sup>st</sup> century is the information decade and the globalization time. The world is turning from small into exiguity, from round into flat. As the description in the book “The World is Flat: A Brief History of the 21<sup>st</sup> Century” by Thomas L. Friedman, we are marching in the new era of globalization [3, 9], which is the new found for power of individuals and groups to collaborate and compete globally.

Just as described by Thomas L. Friedman, The ten forces which flatten the world include Berlin Wall came down and Windows went up, Web and Netscape, workflow software, open sourcing and self-organizing collaborative communities, software outsourcing, offshoring, supply chaining, insourcing, information retrieval in internet, and the steroids, like digital mobile, personal and virtual devices.

The flat world is a networked global competition platform, which enables individuals, communities, companies and universities anywhere in the world to collaborate for innovation, production, education, research and entertainment. Everyone could ask: What place I am in the global competition opportunities in the

flat world? How can I collaborate with others?

## 2 Searching the Development Approach in the Flat World

### 2.1 The Individual Development Approach in the Flat World

Thomas L. Friedman has also pointed out the development approaches in the flat world as follows:

In the flat world, the development of a country will rely on economic success with wide macro reform of economic systems, market environment with reasonable rules, good management, good education and culture, good infrastructure, and the ability to combine globalization and localization.

The companies also have their developing rules in the flat world. For instance, the companies reach for a shovel and dig inside their self toward the flat world; the small companies should act big by means of new tools for collaboration to reach farther, faster, wider and deeper; the big companies should act small by enabling their customers to act really big; and the best companies stay in healthy by getting regular chest X-rays and then selling the results to their clients, etc.

The competition of middle classes is increasingly improving in the flat world now. They should have the

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ability of “to learn how to learn”, continuously learning the methods to deal with old and new things. They should know the balance of enthusiasm and curiosity. They are friendly with people around because they know they have to like others. They are learning to use the right brain in improving the ability of considering the around environment, expressing sensation, art planning as a whole and hankering success.

Based on the above viewpoints, it is easy to think the development factors of individuals in the flat world like education and learning, including teaching and learning, learning and exercising, self learning, knowledge and ability, consists of systematic knowledge and multi kinds ability. Imaging ability is more important than knowledge. The emotional intelligence quotient is more important than intelligence quotient. The development of individual also needs his ability of social responsibility and gumption, opening and communication, wide and peaceful breadth of mind and culture.

## 2.2 To Educate the Competitive People in the Flat World

Education is the important element of a country's development all along. The dragging of education and talents cultivation restricts the improvement of science and management competition. As the most valued resource of the development of a country, the talented people are the core of a country's competition ability. Thus, to cultivate the talents with the international competition ability has become the significant issues for enhancing the national industry and individual competition ability.

## 3 Cultivate the IT Talents with the International Competition Ability

### 3.1 The Ability of Global Competition

From the view of World Economics Forum, the international competition ability of a country, compared to the competitors, is to create and to maintain the long term economical value added, and to create more wealthy than the competitors in the world wide market. Talent force is the important factor of the competition ability of a country.

### 3.2 Talents with the International Competition Ability

The talents with the international competition ability are those who have global concept and of the flat

world and international strategic visions, considering and dealing with issues from the viewpoint of international attitude, and being adaptive to the international communication. They will be ready to set up international friendship, knowledge of international competition rules, culture and specialties of multi countries, having international collaborative partners, network and resources, and capturing the opportunities and playing the game in the international collaboration and competition.

### 3.3 Cultivate the Talents with the International Competition Ability

International vision, international thinking, international activities, international knowledge, international resource, involvement of international competition are all the personal international competition ability.

In order to cultivate the talents with the international competition ability, a university should build the international and multi culture environment, and to promote the international vision of students, retain or invite more foreign guest professors and experts to come to the university to give lectures or to do the academic exchange. Moreover, the international faculty team should be promoted through recruiting new members with international study and work experience, dispatching faculty members abroad to study or work for a period of time. To research on foreign education models and experiences, teaching/learning methods and international curricula and teaching/learning approach are a fairly good way to construct the suitable environment. Besides, positively processing the international student exchange, joint education program, joint supervision of graduate students, and building platforms for international exchange like international cooperation projects, joint laboratories, international academic conferences, and international scientific games of students are also the important components.

## 4 The Thinking and Practice in Harbin Institute of Technology

### 4.1 International Collaboration Policy and Practice of the School of Computer Science and Technology in HIT

Harbin Institute of Technology (HIT) is one of the top nine key universities in China. The School of Com-

puter Science and Technology in HIT is in the list of the best disciplines on computer science and technology in China. The school motto is “Being Strict in Qualification, Making Every Endeavor in Study, Being Factually and Innovative, Exploring and Progressing Constantly”, and the school features include “research oriented, personality oriented, elitists oriented, international”. Through years’ exploration and practice, this school has established a set of intact multiform development policy for international collaboration.

The internationalization of teaching and discipline construction is the necessary premise of the development of the school. The school is always urging the internationalized teaching and constantly expanding the international education channel, especially zealously develop the cooperation with well-known universities and famous professors in the world. Meanwhile, the school actively undertakes the international conferences and workshops, to create favorable conditions for its discipline fusing in the international environment. On the basis of comprehensive exchange and cooperation, many cooperative projects and joint laboratories have been developed.

The multiform development policy of international collaboration of the school shows in many actions. The guest professors are invited in each doctoral program. Each professor in the school has at least one long-term international partner and the projects for international cooperation. Foreign advanced curriculum, textbooks and courseware, bilingual teaching have been introduced for teaching approach internationalization. The school has recruited foreign students and exchanging Chinese students abroad for students internationalization. Besides, the school has set up a group of international joint laboratories, such as HIT-Microsoft Joint Laboratory on language and speech processing, HIT-IBM Joint Laboratory, HIT-Intel Joint Laboratory, European Virtual Laboratory on Enterprise Interoperability, China Pole, HIT-Yahoo Joint Laboratory etc. Moreover, a List of International Cooperation to define the metrics for international collaboration has been carried out so as to compare and to encourage each research centers or each faculty member participating into international exchange and activities.

Recently, in order to improve research and education of computing discipline, a project named The In-

ternational Cooperation Plan for the New Technology of 21st Century Computing is being performed in the school and has got strong support from the State Foreign Expert Bureau. The content of the project can be summed up as “Two”, “Ten”, and “One”, namely, Two Key Aspects—international collaboration on research and education, Ten Partners—to collaborate with more than ten international famous universities, professors and their teams, and One Batch of Achievements—to get a batch of achievements including excellence networks and communities, international projects, joint laboratories, international conferences, academic papers, student cultivation in new research fields (e.g. human computer interaction, mobile computing, service computing, bio computing, mass data management).

#### 4.2 International Collaboration Policy and Practice of the School of Software in HIT

The National Pilot School of Software at Harbin Institute of Technology (HIT-NPSS) is approved by the Ministry of Education and the State Planning and Development Committee as one of the best National Pilot Schools of Software in China. Taking the “Internationalization, Industrialization, High-quality and High-Speed” as the school ethos, the HIT-NPSS strengthens the international cooperation and multi-levelly cultivates the industry-oriented high-level software talents who are up to the fierce international competition.

The school constantly broadens the way of education through international cooperation and the cooperation with industrial companies. A series of international collaboration systems have been built up and implemented to promote the international cooperation and to realize the internationalized education system. In this system, the international joint education programme is an emphasizing part in the international cooperation policy in HIT-NPSS. Through years’ endeavor, the Joint Bachelor Programme on Computing & Software Engineering cooperating with Dublin Institute of Technology (DIT), Ireland has obtained fruitful achievements. Now, the Joint Master Program on Software Engineering & Information Management between HIT and DIT is in the gestating stage and will be carried out soon. Besides, the Joint Master Programme on Software Engineering & Production Management with University Bordeaux, France is also in performing well. On this ba-

s: the Joint Master Program on Software Engineering & Network Application with University of Aizu, Japan, the Joint Master Programme on Software Engineering & Production Management with Technical University Berlin, Germany are all on the way of implementing.

The EMERSON Project (Education to Meet the Requirements of Software Industry and Beyond—Establishing, Implementing and Evaluating an Industry Oriented Education Model in China), supported by “Asia-Link” Programme of European Commission and with the collaboration of Dublin Institute of Technology, Ireland, Harbin Institute of Technology, China and University of Wolverhampton, UK, has been successfully completed with abundant significant outcomes. As a result, the project partners have developed an industry oriented education model for undergraduate software education. The China-Europe International Symposium on Software Industry Oriented Education was initialized with the EMERSON project, aiming at involving more academic institutes and industrial organizations in extending the impact of EMERSON to help further devel-

op and perfect the software industry oriented education in both China and Europe.

## 5 Conclusion

In the 21<sup>st</sup> century with globalization filtering into every field, the world is becoming flat. It is a new development chance for both developed countries and developing countries. In order to promote the international competition ability of a country, it is necessary to cultivate the talents with international competition ability.

Temporizing to the current tendency, Harbin Institute of Technology has done a lot of practice on cultivating talents up to the international competition.

The success of the practice for the multiform development policy is tightly connected with the support of our international partners, especially the Dublin Institute of Technology in Ireland, University Bordeaux I in France. Their collaboration is essential and indelible; thus, we would like to express our gratitude to them all.