

贵州省区域内一流建设培育学科——教育学成果

技术创新文化
高职院校核心竞争力
培植的生态基础

The Culture of Technical Innovation
Ecological Basis for Cultivating the Core
Competency of Higher Vocational Colleges

侯长林 ⊙ 著
李 谦 ⊙ 译



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内 容 简 介

在当今这样一个开放的世界,高职院校面临“出口”和“入口”的双重压力,部分实力薄弱的高职院校被淘汰出局将不可避免。因此,要使高职院校不仅生存而且发展,就必须培育和提升其核心竞争力。本研究综合运用高职教育理论、核心竞争力理论、文化生态理论和技术创新文化理论对高职院校核心竞争力培植之技术创新文化进行了系统的研究,明确提出了“高职院校核心竞争力就是指高职院校竞争力中那些最重要、最关键、最本质的能使整个学校保持长期稳定的竞争优势的竞争力”,以及“技术创新文化是高职院校核心竞争力培植的生态基础”的新观点,尤其是在对高职院校核心竞争力培植之文化生态重构的思想基础进行讨论后,提出了我国高职院校核心竞争力培植之技术创新文化提升的路径,从而构建了高职院校核心竞争力培植之技术创新文化的理论体系。

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前 言

2015 年联合国教科文组织发布的《重新思考教育：迈向全球共同事业》指出，教育要进一步成为全球“共同事业”。未来的高等教育国际化将面临日益增多的跨国、跨地区交流，先进教育理念的共享将成为全球高等教育必然的选择。

随着“一带一路”开放合作的力度不断加强，语言在传播教育理念、促进文化交流、推动文明创新等方面的重要价值愈发凸显。英语作为世界性强势语言已进入“一带一路”沿线国家高等教育体系之中。作为国际通用语，英语在沿线国家乃至全世界其他国家和地区都具有重要的影响力，英语作为教学语言已成为全世界许多国家推进高等教育国际化的重要战略举措之一。由此可见，英语在科学研究和高等教育等领域占有主导地位。

原著作对我国高职院校核心竞争力培植之技术创新文化进行了系统的研究，提出了“技术创新文化是高职院校核心竞争力培植的生态基础”的新观点，以及我国高职院校核心竞争力培植之技术创新文化提升的路径。

本译著契合国家倡导的“教育国际化”和“一带一路”建设，充分利用英语的优势对外传播高等教育理念。该译著为国外教育领域专家了解中国高等教育以及进行中外高等教育对比研究提供了文本参考，为国外职业技术学院培植核心竞争力提供理论参考和借鉴，为发展“全球教育共同事业”尽绵薄之力。

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Introduction

Problems Presentation

Current status of higher vocational education and the problems of higher vocational colleges in China

In today's world, competition exists everywhere, whether at home or abroad. Competing factors pervade in the air to every corner, forming a gigantic arena of competition in the world. In this particular arena, there are political struggles, military slaughters, economic tugs-of-war, cultural clashes, sporting events, and many others, ranging from the comparatively cruel or relatively mild ones to the fairly fierce and less intense ones. In one word, there is a diversity of competitions. Competitions in varied forms intertwine and infiltrate one another like the growing roots of a tree. They are complicated. In sum, our world is already full of competition and so abandoning competition is no different than abandoning development or even survival, which is the significant social backdrop that faces us.

In recent years, the position and role of human resource have been rising significantly, which is becoming the most important one among various resources. In particular, as higher education institutions move from the social fringe to the core of social communities, competition gradually veers from economy-based competition among countries and regions toward talent-based competition. As a result, new and higher development requirements are surfacing before higher education institutions.

After more than a decade of development, although higher vocational education has been progressing rapidly as an important part of higher education, it currently faces a tough road ahead for future development.

Firstly, the overall enrollment in China is decreasing gradually. Despite China's large population, the peak of enrollment for higher education in China has passed. The number of students who participated in the college entrance examination nationwide from 1998 to 2008 witnessed an increasing trend from 3.2 million to 10.5 million. However, the number began to drop after 2009 to only 10.2 million, decreased by 300,000 students from that of 2008. The number of students registered for the college entrance examination was only 9.46 million in 2010, decreased by 740,000 from that of 2009.^① This declining trend, in accordance with the prediction of experts, is likely to "continue till 2025".^② The number of students participating in

① Dai Jiagan. The Number of Students Registered for College Entrance Examination Was only 9.46 Million in 2010, Reduced by 740,000 from that of 2009 [EB/OL]. http://www.eol.cn/kuai_xub_3075/20100527/t20100527479156.shtml, 2010-05-27.

② Chen Wei, et al. Population Policy and Development of General Higher Education [J]. Higher Education Research, 2010 (03): 14.

the college entrance examination nationwide has been decreasing since 2009, but the admission rate has been increasing constantly. In 2008, the national admission rate was 57.29%, which rose to 61.67% in 2009 and to 69.45% in 2010. The 2010 admission rate grew by 7% from that of 2009. According to the statistics, there are 8 provinces with an admission rate greater than 80%. The admission rate of Heilongjiang Province in 2010 even reached 90.77%.^① Taking the reduction of overall quantity of students and the increased admission rate into consideration, the enrollment of higher vocational education will, as we reckoned, exceed the number of applicants in 2021 for the first time, and an “all-enrolled” era will arrive, i.e., the admission rate of the college entrance examination will exceed 100%. In other words, by 2021 it is likely that universities and colleges will recruit students who score a zero in the college entrance examination. “Even though the registered students will take up a higher ratio among the college-aged population, the admission rate will exceed 100% by 2023, supposing we calculate with a more optimistic rate of 9%.”^② Taiwan, China entered the “all-enrolled” era in 2008 after Japan. The enrollment of students for higher education will surely drop in general, regardless of an 100% admission rate in 2021 or 2023. Therefore, “the situation of recruitment of higher education in China will be severe in the future, particularly during the 15 years before 2025.”^③ As a result, leaders and experts have made predictions: at a education conference in 2008, Guo Shenglian, the vice governor of Hubei Province, stated that colleges and universities in Hubei Province might go bankrupt in five years and undergo reorganization.^④ Professor Gu Hailiang, the former president of Wuhan University, concluded: “the decreased number of students aged 18 to 22 increases the likelihood that some colleges and universities, particularly some private universities and independent colleges, might suffer from bankruptcy.”^⑤ In order to cope with the sharp decrease of student enrollment, Jiangsu Province decided to lower the threshold of admission for higher vocational colleges. In 2010, Jiangsu Province tried to allow graduates from secondary vocational and technical colleges to study directly, without taking examination, in higher

① Jiang Naiqiang. The Number of Students Taking China's College Entrance Examination Dropped for Three Consecutive years, Challenge of Decreased Quantity of Students for Colleges and Universities [N]. China Education Journal, 2011-06-09.

② Chen Wei, et al. Population Policy and Development of General Higher Education [J]. Higher Education Research, 2010 (03): 14.

③ Chen Wei, et al. Population Policy and Development of General Higher Education [J]. Higher Education Research, 2010 (03): 14.

④ Li Youqing. Grasp the Opportunity, Deepen the Reform, Create Uniqueness and Brand, Striving for a Healthy and Fast Development of Schools [EB/OL]. <http://xcb.enxnc.com.cn/ReadNews.asp?NewsID=576>, 2008-03-25.

⑤ Du Li. President of Wuhan University Claimed Some Colleges and Universities Would Be Confronted with the Crisis of Bankruptcy in 10 Years [N]. China Youth Journal, 2010-03-24.

vocational colleges.^① Unfortunately, many higher vocational colleges have not yet realized this potential crisis. The decrease of overall student body will first impact those colleges and universities which were relatively newly established and those with weaker strength or worse talent cultivation performance. Among these, higher vocational colleges obviously take up a larger proportion.

Secondly, the “monopoly” of higher vocational education in cultivating high-end skilled talents will cease. In the past decade, sufficient students was another important factor which led to the rapid development of higher vocational education. Namely, the unique mode to cultivate the significant number of high-end skilled talents demanded by society has been found in higher vocational education. On one hand, high-end skilled talents were largely demanded by society. On the other hand, higher vocational colleges monopolized the market of cultivating high-end skilled talents. It’s easy for their graduates to find a job even though they failed to meet the requirements of employers since no rivals competed with higher vocational colleges in this regard. This is caused by an absence of alternatives in society. However, within a few years, the promotion of the “outstanding engineer and physician education program” of the Ministry of Education will urge universities to transform themselves into cultivators of applied talents. Meanwhile, our country has attached increasing importance to secondary vocational education. In particular, the government requests every county to run a good secondary vocational and technical school or vocational education center, which will increase the number of applied talent producers. The increased number of schools will enlarge the group of applied talents every year, which will end the “monopoly” of graduates cultivated by higher vocational colleges in job market. According to the prediction of relevant experts: in the coming years, 80% to 90% of universities will have to transform their role into applied-talent producers gradually, which will almost double the current number of schools that cultivate applied talents. The number of applied talents cultivated by universities will increase as well. Furthermore, the number of applied talents with a bachelor’s degree will double. Such talents will dominate the middle and high-end markets of applied talents once occupied by outstanding graduates from higher vocational colleges. Therefore, those graduates from higher vocational colleges will go down to the middle and low-end applied talents market. Then to a certain extent, the outstanding talents trained in secondary vocational and technical colleges will move upward to the job market and compete in the middle and high-end applied talents market. Such trend would cause graduates from higher vocational colleges to be confronted with an awkward situation of competing with graduates from both secondary vocational and technical colleges and universities.

Thirdly, there is competition for students from the international education and the dominance of international graduates in the job market. The situation suggests that internationalized education has become an irresistible tide and developing trend, which quietly gives rise to

① Chen Ruichang. Jiangsu Will Practice “Higher Vocational Institutions Registration System” for Secondary Vocational College Students in 2011 [N]. China Education Journal, 2010-10-20.

the international competition of education. In accordance with the figures released by the Ministry of Education, there were 144,000 students who studied abroad in 2007, up by 167.44 times from 860 students in 1978. From 1978 to the end of 2007, there were 1.2117 million students who studied abroad for a variety of reasons, including 319,700 students who had returned to China after graduation.^① In 2008, the number of Chinese overseas students reached 179,800,^② and in 2009 it reached 229,000, an increase of 27.5% on a year-on-year basis. According to the statistics, the number of students who chose to study overseas rather than to take China's high school or college entrance examinations grew by 20% annually in such cities as Beijing and Shanghai. The number of students studying for a bachelor's degree abroad is also increasing. For example, the number of Chinese students who studied in the United States from 2008 to 2009 reached 98,510, an increase of 21% from the previous school year, and the number of students studying for a bachelor's degree doubled.^③ Of course, the number of foreign students studying in China is also increasing rapidly. Statistics published by the Ministry of Education show that there were 195,500 foreign students who studied in China in 2007, increased by 32,800 students compared with that of 2006 with a year-on-year growth of 20.17%.^④ 223,000 foreign students studied in China in 2008^⑤ and 238,000 in 2009.^⑥ This data reveals that not only has the number of Chinese students studying abroad increased but also the number of foreign students studying in China grew as well. This phenomenon has proven that the competition of education in the global arena has already revealed itself and is causing a fierce scramble for students. Foreign students in China outnumbered Chinese students studying abroad by 51,500 in 2007. In 2008 and 2009, that number decreased to 43,200 students to and 9000 respectively. However, if we ignore the development of higher education, the awareness of competition, and competition capability cultivation, there will be an inverse

① The Number of Chinese Overseas Students Ranked Top Across 109 Countries Worldwide [EB/OL]. https://www.china-b.com/lxym/lxdt/20090318/1055104_1.html, 2008-10-27.

② In 2008, 90% of 179,800 Overseas Chinese Students Studied Abroad at Their Own Cost [EB/OL]. <https://finance.sina.com.cn/roll/20090326.07542752350.shtml>, 2009-03026.

③ Jiang Naiqiang. The Number of Students Taking China's College Entrance Examinations Dropped for Three Consecutive Years, The Challenge of Decreased Enrollment of Students for Colleges and Universities [N]. China Education Journal, 2011-06-09.

④ Ministry of Education: Foreign Students in China Maintained Fast Growth in 2007 [EB/OL]. https://www.gov.cn/jrzg/2008-03/13/content_919387.htm, 2008-03-13.

⑤ The Number of Foreign Students in China Exceeded 200,000 in 2008 for the First Time, Students from Korea, USA and Japan Ranked Top 3 [EB/OL]. <https://www.news.163.com/09/0325/18/5597QKPQ000120GR.html>, 2009-03-25.

⑥ Ministry of Education: The Number of Foreign Students in China Exceeded 230,000 in 2009, Creating a New High for Four Items [EB/OL]. https://www.chinanews.com.cn/edu/edu-zcdt/news/2010/03-22/21836_67.shtml, 2010-03-22.

- the deficit will turn into a surplus soon. Over the past three decades, 1.36 million Chinese students studied abroad and only 370,000 students returned to China after graduation. Nevertheless, in recent years, “the number of overseas students returning to China grew by over 13% every year^①, and the number of returned Chinese students reached 100,000 for the first time, with an increase of 56.2% in 2009^②.” It is foreseeable that further economic development in China will encourage more and more overseas students to return to China, as well as more and more foreign students to stay in China. Foreign college graduates will, to a certain extent, compete with domestic college graduates in the job market.

Fourthly, competition for jobs and students exists among higher vocational colleges. At present, there are 1,215 higher vocational colleges in China, which present quite different capabilities in school management and talent cultivation. Differences are found between eastern and western higher vocational colleges and between higher vocational colleges in central cities and non-central cities. In particular, the differences between the national demonstration higher vocational colleges, national mainstay higher vocational colleges and provincial demonstration higher vocational colleges with the other normal higher vocational colleges are quite huge. Generally speaking, the former are more attractive to students.

In addition, the phenomenon of students “giving up college entrance examination” and students studying independently at home in recent years has brought stress to the enrollment and employment work for higher vocational colleges. According to the Chongqing College Recruitment Office over 10,000 high-school graduates of Chongqing did not register for the college entrance examination in 2009.^③ Jiang Gang from the Students Affairs Department of the Ministry of Education said: “nationwide, there were 840,000 high-school graduates who did not register for the college entrance examination in 2009”.^④ Actually, students did not take the college entrance examination for three reasons: first, some students abandoned registration before the examination; second, some students give up filling the intention for universities after the examination; and third, some students did not check in after recruitment. At present, the phenomenon of not taking the college entrance examination has “even appeared in Level A universities and famous universities let alone in higher vocational education, junior college education, Level C universities and Level B universities.”^⑤ This

① In 30 Years 1.36 Million Overseas Chinese Students and 370,000 Graduates Who Returned to China [EB/OL]. https://www.jhnews.com.cn/jykj/2009-01/03/content_389922.htm, 2009-01-03.

② In 2009, The Returned Chinese Overseas Students Reached 100,000 for the First Time [EB/OL]. https://www.hljdaily.com.cn/xw_jysk/system/2010/03/19/010578409.shtml, 2010-03-19.

③ He Ying. Nearly Ten Thousand High School Graduates Gave Up College Entrance Examination in Chongqing [EB/OL]. <http://news.sina.com.cn/c/2009-03-28/015015379526s.shtml>, 2009-02-28.

④ Guo Shaofeng. 840,000 High School Graduates of the Year Gave Up College Entrance Examination Nationwide [EB/OL]. <http://learning.sohu.com/20090604/n264339381.shtml>, 2009-06-04.

⑤ Jiang Naiqiang. The Number of Students Taking the College Entrance Examination Dropped for Three

data reveals that the number of high-school graduates who chose not to take the college entrance examination every year is not insignificant. The number of self-taught students in China is also not insignificant, though there is no authoritative data on this aspect.

Therefore, Fan Wei, director of the Higher Vocational and Junior College Education Division of the Ministry of Education, reported in the second briefing of the Overseas Training Program for Higher Vocational College Leaders: higher vocational education in China has entered a critical moment. She described the severe situation of higher vocational education in China with a famous line from Shakespeare —“to be or not to be”.^① The aforesaid analysis proves that Wei’s description was not alarmist talk, but an accurate assessment of the situation faced by China’s higher vocational education.

At this critical moment, Chinese higher vocational education has to foster and improve its core competency to survive and develop. Otherwise, the stress from “enrollment” and “employment” will inevitably wash out weak higher vocational colleges. Consequently, the question — how to foster and improve the core competency of higher vocational colleges — has become a chief concern of the administrative authorities and higher vocational colleges.

What is the most critical way to foster and improve the core competency of higher vocational colleges? Of course, it is the foundation. From the perspective of ecology, it means the ecological base. Core competency is a wonderful flower in the ecological park of higher vocational colleges, which is supported by nutrients and the soil. Without such support, how can this wonderful flower grow up? The on-site investigation of more than ten higher vocational colleges in China and subsequent analysis of the types and characteristics on the technology and culture of higher vocational education in China pushed me to realize that the ecological base for core competency lies in a culture of technical innovation. Therefore, we should build a base of cultural ecology that will offer soil and nutrients to foster and improve the core competency of higher vocational colleges. Since a culture of technical innovation is the ecological base for the cultivation of core competency for higher vocational colleges, we must gather strength to make it come true.

Although research on core competency and innovation culture has been carried out in China with some achievements, research on the ecological base for technical innovation which cultivates core competency for higher vocational colleges is a brand-new topic. How can the core competencies of higher vocational colleges be improved without a solid ecological base? However, some problems surface on how to relate technical innovation with core competency in higher vocational colleges? What is the ecological status of technical innovation that cultivates core competency for higher vocational colleges in China? What are the problems with such an

Consecutive Years, Challenge of Decreased Quantity of Students for Colleges and Universities [N]. China Education Journal, 2011-06-09.

① Speech of Director Fan Wei in Second Briefing of Overseas Training Program for Higher Vocational College Leaders [EB/OL]. <https://www.qtc.edu.cn/Print.Asp?ID=5035>, 2010-01-17.

ecological base? If the imbalanced campus cultural ecology and the weak technical innovation are the main problems of this ecological base that cultivates core competency for higher vocational colleges, in what areas are they mainly manifested? How to cultivate the ecological base for technical innovation and core competency for higher vocational colleges? How to build a culture of technical innovation that is beneficial to the growth of the core competency of higher vocational colleges? Apparently, these problems are significant enough to impact the improvement of core competency of higher vocational colleges, and even the survival and development of higher vocational colleges in China. Consequently, the research of technical innovation culture for the core competency cultivation of higher vocational colleges becomes more urgent today because of the intensive competition, which is an essential question for the cultivation and improvement of core competency in higher vocational colleges.

It is imperative to enhance the core competency of higher vocational colleges

Research on the theory of core competency of higher vocational colleges began late in China. People formed a consensus after the “National Key Colleges and Universities Development Strategy Planning Exchange Meeting” in Xiamen University from July 16 to July 19, 2003, who held the opinion that colleges and universities ought to find out their positions in regional and national economy, develop a competitive strategy that can fully utilize their characteristics and advantages, and improve their capability for self - development.

Even though many studies on the core competency theory of colleges and universities have been carried out in China in recent years, they mainly concentrate on concept introduction, mode grafting, method learning, primary design of features, the structure and components of core competency, and core competency from the static perspective. The theoretic studies are neither in-depth nor comprehensive and just not adequate on the core competency of higher vocational colleges. Besides, China began the research of innovation culture quite late. It was not until 1998 that the concept of “innovation culture” appeared. At present, the research on innovation culture remains immature with few achievements, and the technical innovation culture is even less studied. Therefore, we should begin with the association between technical innovation culture and the core competency of higher vocational colleges. To study the technical innovation culture that cultivates core competency for higher vocational colleges, we must acknowledge that technical innovation strengthens people’s awareness on core competency and in technical innovation cultural ecology, which further enriches the theories for core competency for technical innovation culture. Although higher vocational colleges are a kind of higher education institutions like other colleges and universities, they are required to shape distinct features in educational philosophy, school management, talent cultivation mode, and scientific and technological research. The research on technical innovation culture that cultivates core competency for higher vocational colleges cannot only sort out the differences between higher vocational colleges and other colleges and universities, but also build a theoretical frame for technical innovation culture that cultivates core competency for higher vocational colleges,

hence enriching the research on higher education.

The core competency of higher vocational colleges refers to the most important, critical and essential competitiveness that maintains long-term stable advantages of higher vocational colleges. This competency is the talent cultivation competency and technical research competency. Although there are various specific ways regarding the improvement of the core competency of higher vocational colleges, the most important one is still about the construction of an ecological base and the cultivation of a technical innovation culture. The imbalanced campus cultural ecology and the weak technical innovation culture are the main problems faced by an ecological base that cultivates core competency for higher vocational colleges. To solve these problems, a series of other problems must be addressed, by way of reconstructing the cultural ecology that cultivates core competency for higher vocational colleges, improving technical innovation culture, updating the value and basic principle of cultural ecology reconstruction, awakening the consciousness of technical innovation culture, rebuilding spiritual cultural ecology, strengthening technical innovation team, improving the ecology of technical innovation culture, cultivating good geo-cultural ecology and refining the features of technical innovation culture. Discussions on these issues will help us further identify the regular pattern, based on which we can create an ecological base for technical innovation culture, improve the level of technical innovation culture, and therefore strengthen the core competency for higher vocational colleges, which has an extremely important practical significance in the development of higher vocational colleges in a fast and effective way.

Studies and Discussions on Relevant Problems

Studies on core competency

Until 1995 the theories of the core competency of enterprises were introduced from the outside world to China, but the primary discussion on competition and competition-related issues, and study on core competency of colleges and universities took place even later. Not until 2001 had people discussed the core competency of colleges and universities. However, the Chinese academic community has expressed greater and greater concern on core competency study in recent years. Since 2005, over 2,000 papers about core competency have been published every year, and core competency became a hot topic for economic and management research, and remarkable achievements have been achieved. However, there isn't much research on the core competency of colleges and universities. Less than 20 papers in this regard are published every year. Moreover, studies on the core competency of colleges and universities are not in depth enough. Even less research on core competency of higher vocational colleges has been carried out. This proves that the research on core competency of colleges and universities has not gained enough attention from society yet, while research on the core competency of higher vocational colleges has just begun.

Foreign studies on core competency

The study of core competency in the world has a long history and is rich and thorough.

(1) The study on core competency shows remarkable stage-based features

Looking back into the research on core competency done by foreign researchers, we can find that research has gone through the economic and management study stages and now enters a stage on higher education.

Stage 1: Research on core competency from the perspective of economics

The origin of the theory of core competency can be traced back to Adams Smith, a classical economist. Adam Smith pointed out in the opening of his *The Wealth of Nations* that “the maximum increment in labor capacity, the greatest proficiency, skill and judgment reflected in the labor seem to be the result of labor division.”^① This is the famous labor division theory of Adams Smith. In 1817, David Ricardo put forward his opinions in *On the Principles of Political Economy and Taxation* that some organizations had their specific assets, skills, and capabilities greatly influenced by the efficiency of labor division, which is the embryo of the concept of competency. In 1920, the “theory of inner growth of enterprises” established by Alfred Marshall analyzed the “differentiated labor division” between functional departments of enterprises, enterprises and industries, which drew the conclusion that knowledge and skills can be the capability of an enterprise. Later, Edith Penrose and G.B. Richardson carried out more in-depth research from their own perspective based on this foundation and enriched this theory from the aspects of “inner knowledge accumulation of enterprises” and “coordination between organizations” respectively. The important schools of theory about competency are from the perspective of economics, such as the enterprise resource foundation theory, enterprise dynamic ability theory and enterprise knowledge foundation theory, which were gradually formed on the basis of the theory of inner growth of enterprises.

Stage 2: Research on core competency from the perspective of management science

A.D. Chandler, Igor Ansoff, and K. Andrews proposed the concept of “strategic management” at the beginning of the 1960s, which directed researchers’ attention from economics to management.

In 1980s, Michael Porter and other strategic management theory researchers began to focus on the external environment of enterprises and pointed out that enterprises should identify their strategy on the basis of environmental analysis. Moreover, three general competition strategies were proposed, namely, cost leadership, differentiation and concentration. The competition strategy research of Porter opened a brand new field for business operation strategy and made important contributions to the theory of competition strategy theory. However, it was *Core competency of Companies* jointly published by Prahalad and Hamel in 1990 that formed the core

① Smith, Adam(author), Guo Dali and Wang Yanan(translator). *The Wealth of Nations* [M]. Beijing: The Commercial Press, 2008 (07):1.

competency theory of enterprises. This paper explained the word “core competency” clearly. Later, Hofer and Schendel began to discuss “competitive strengths” in the field of strategic management. Philip Selznick employed the concepts of “capability” and “special capability” in his *Art of Leadership in Administration*. From then on, “capability” became the focus of concern for strategic management experts. For instance, Ansoff and Andrews did more in-depth research on the concept of “capability” and exerted greater influence.

Stage 3: Research on core competency from the perspective of higher education

Scholars, represented by university presidents, had not begun to think about competition of universities from the practical needs of school management until the 21st century. Before this, core competency seemed to be a research subject of economists and management scientists, which had nothing to do with higher education. Sadovnichii Victor Antonovich, the president of Lomonosov Moscow State University, was the first person who pondered deeply over core competency of universities. “The university is always capable of seeking balance between tradition and innovation and maintaining the balance forever”^① he said by pointing it out as the vigorous vitality of universities and pondering why Lomonosov Moscow State University stood for over 250 years. Although the words “core competency” weren’t mentioned by him, the concept is obviously discussed. Sadovnichii made a detailed inquiry as to why Lomonosov Moscow State University existed for over 250 years, before he drew the conclusion that Lomonosov Moscow State University had some advantages. “Advantage” and “capability” are the key words for the concept of “core competency” discussed so far. Alison Richard from Cambridge University also examined the core competency of universities in their early stages. When asked why Cambridge University maintained its advantageous position for 800 years, she replied: “I think it’s the college system that makes Cambridge University stand out for a long time.”^② Actually, this was the key to the success of Cambridge and Oxford University. According to Alison F. Richard, the most important core competency of Cambridge University and Oxford University is the unique “college system”, which has a number of benefits, especially the advantages to cultivate talents and improve the power of talent cultivation. Richard Levin, the president of Yale University, explained in an interview that “the scale and benefits of universities must be expanded,” but, “the quality must be ensured in the meantime. The quality of faculty and scale of the school must complement each other.”^③ This is an idea on the scale of universities and their quality of core competency. On August 9, 2004, in the second Dialogue of the 2nd Chinese Foreign University Presidents Forum, seven presidents from the UK, USA and China jointly discussed the question of “how to develop scientific research resources

① Chinese and Foreign University Presidents Forum Leadership Team of Ministry of Education—Collections of Chinese and Foreign University Presidents Forum (2nd edition) [C]. Beijing: Renming University Press, 2004 (09): 106.

② Cao Lijun. Xinhua News Agency [N]. Reference, 2004-07-08.

③ Huang Wen. China Education Journal, 2004-08-05.

and improve core competency of universities effectively.” The President of The University of Warwick said, “The managers of universities shall remove the artificial barriers and encourage cooperation within the institutions to achieve overall effect.”^① Larry Faulkner, the 27th president of the University of Texas at Austin, said: “there must be resources to enable a flexible operation of schools...in addition to funds, the government ought to create a better mechanism.”^② The first Vice President Macmillan of Oxford University discussed how to create a college science park.^③ These are valuable suggestions for the cultivation of the scientific and technological competency of universities. In addition, Gabriel Ruget from Ecole Normale Super Paris, and Takeshi Sasaki from The University of Tokyo also delivered speeches or statements involving similar ideas. Obviously, these were discussions on the core competency of universities based on the school management experience. All in all, the aforesaid ideas posed by these university presidents on “competency” or “core competency” symbolize the research of core competency has been shifted into the field of higher education. However, research on core competency theory for universities are much shallower than research on core competency of enterprises. The research on the concepts, features, and reconstruction of core competency, or the improvement of core competency of higher education, is just beginning.

(2) Diversity of core competency research perspectives

Ever since the concept of “core competency” arose, the main points of view can be summarized as follows, there are different opinions and different schools of theory formed by different foreign researchers on core competency:

First, integration—Prahalad and Hamel, etc., were the representatives of the viewpoint of integration. They began from the perspective of integration to elaborate that core competency is the common knowledge of the organization. In particular, core competency is about the knowledge coordinating different production skills and integrating multiple technology flows.

Second, knowledge—Barton was the representative who believed that the core competency of an enterprise refers to the exclusive knowledge and knowledge system that offer competitive advantages.

Third, resource—Christine Oliver was the representative, who had the belief that core competency refers to resources of labor, material, fund and technology, which are reasonably

① Chinese and Foreign University Presidents Forum Leadership Team of Ministry of Education—Collections of Chinese and Foreign University Presidents Forum (2nd edition) [C]. Beijing: Renming University Press, 2004 (09):309.

② Chinese and Foreign University Presidents Forum Leadership Team of Ministry of Education—Collections of Chinese and Foreign University Presidents Forum (2nd edition) [C]. Beijing: Renming University Press, 2004 (09):311.

③ Chinese and Foreign University Presidents Forum Leadership Team of Ministry of Education—Collections of Chinese and Foreign University Presidents Forum (2nd edition) [C]. Beijing: Renming University Press, 2004 (09):309.