ABSTRACT:

After three decades of rapid growth, China has become a large economy with huge potential. Human capital is an important factor affecting economic growth. Higher education, whose basis is economic development, is one of the important means to promote a certain country's human capital. Collaboration between industries and universities by way of Continuing Education can promote human resource development in industries and discipline development in universities. This article analyses the collaboration practices between Peking University and domestic and foreign companies. Through innovation and quality management, individualized curriculum design and extended services, continuing education of PKU becomes an active boost for foreign enterprises' localization and local enterprises' internationalization, helping SMEs enhance independent innovation capability, enhance management and promote technological progress. It also casts light on how the collaboration helps discipline development of PKU. In addition, this article explores an effective cooperation mode.

Key words:
Industry and University Collaboration, Continuing Education, Quality Management, Innovation Model

INTRODUCTION

In the past five years, continuing education in Peking University has shown a sustaining rapid growth (as in Figure 1 and Figure 2). An increasing number of enterprises choose to work together with Peking University for internal training,
including well-known transnational corporations as well as middle and small-sized enterprises in China. During its cooperation with those enterprises, Peking University has sought out a new model of university-enterprise cooperation, which is both innovative and personalized. The cooperation model revolves around two key points: 1. With its advantages in disciplines, courses and teaching staff, Peking University efficiently works on human resources development on behalf of enterprises. 2. Information flow and capital flow brought by university-enterprise cooperation has in turn boosted the rapid development of disciplines in Peking University.
Section 1 Motivation for University-enterprise Cooperation in the Field of Continuing Education
China has achieved 30 years of continued fast economic growth and has shown enormous development potential. Human capital is a significant factor affecting economic growth, while staff training is an important way to realize the reproduction of human capital. Human knowledge and ability basically derives from educational investments. As a special form of education, continuing education mainly updates, supplements, expands and enhances professionals’ knowledge and ability, and consequently, refines the structure of knowledge and improves creativity and level of professional skills. Using their advantages in disciplines and teaching staff, universities run continuing education to support human resources development of enterprises.

For another, developing continuing education serves as a catalyst to drive educational reforms in universities and also an incubator for the construction of disciplines and courses. It is the close relationship between continuing education and the society and enterprises that motivates the construction of discipline, courses and teaching staff, as well as the transformation of scientific achievements and further facilitates an open-ended educational system. Continuing education also provides necessary financial support for university development.

Therefore, in the field of continuing education, a win-win foundation of collaboration exists between enterprises and universities. Namely, enterprises accumulate human capital while universities promote discipline construction and obtain more financial support. In this way, both enterprises and universities achieve long-term development.

SECTION 2 PKU’S QUALITY MANAGEMENT AND INNOVATION DURING COOPERATIVE TRAININGS WITH ENTERPRISES

More than 500 enterprises work together with Peking University for internal training. Peking University’s cooperation with enterprises has developed into a full-fledged model, balancing the need of both sides and enabling the continuing education to be an equal partnership, instead of a service provided by one side for the other. To be more specific, the cooperative training model between Peking University and
enterprises has following characteristics.

**Subsection 1 Permissive and Independent Environment**
Peking University encourages each school to carry out cooperative trainings with enterprises independently. It has a specific school of continuing education responsible for comprehensive trainings and dozens of other schools for professional trainings. Depending on its advantages in disciplines, each school may launch cooperative trainings of different types and scales with enterprises.

**Subsection 2 Scientific and Flexible Cooperative Training Procedure**
Peking University has established a scientific and flexible procedure for enterprise-university cooperative training (see Figure 3).
Subsection 2.1 Training Demand Analysis

Training demand analysis is conducted by the two sides jointly, including organization analysis, task analysis, participant analysis and discipline analysis.

Organization analysis focuses on the analysis of an enterprise's strategic goal, corporate culture, resources and environment, balances immediate interest and long-term development and thereby determines corresponding training goal.

Task analysis identifies work task of each position, required standard for each task and essential knowledge, skills and attitude to fulfill the task. Participant analysis
principally evaluate actual knowledge, skills, ability and attitude possessed by employees participated. It determines the solution, after finding the performance gap and what causes the gap. Discipline analysis contains two aspects. On one hand, it dissected what disciplines and courses in Peking University support the internal training of the enterprise and to what extent they support the training, and then brings them in the solution. On the other hand, it analyzes to what extent the university-enterprise training drives the construction of certain disciplines and courses. Finally, with the joint efforts of both sides, a report concerning training demand analysis is completed, serving as the basis for future cooperation.

**Subsection 2.2 Customized Training Scheme**

Based on the training demand analysis, Peking University customizes the training scheme for enterprises. Firstly, define the overall goal of the training and specific goal of each level. Secondly, determine the content of training according to participant analysis and discipline analysis. Generally speaking, it includes four categories: knowledge training, skill and ability training, concept and attitude training, psychological and potential training. Finally the training course is worked out based on the requirement of qualification system and competency model. Peking University emphasizes not only on general knowledge and ability training, but also on skill and ability training as well as concept and attitude training. Generally, Peking University would recommend to include courses such as professional ethics, values, humane art education, psychological adjustment and stress management, with its departments of philosophy, history, Chinese and psychology providing rich and outstanding recourses for such courses. Thirdly, according to the requirement of the enterprise as well as the condition of the university, they determine the place, length and intensity of training, which brings convenience to both sides and saves expenditure.

**Subsection 2.3 Diverse Teaching Methods**

Traditional teaching method cannot neither satisfy the enterprise's demand, nor provide sound information feedback for the university. Therefore, Peking University
makes the most of a variety of teaching methods and technology, including lectures, demonstrations, cases, visits, discussions and role plays, and meanwhile, takes advantages of multiple teaching environments like face-to-face teaching, on-demand online classroom, and real-time interactive online classroom. Classes can be held at the university, in the company or anywhere else conductive to the education efficiency. Diverse teaching methods combines perfectly with personalized training scheme.

**Subsection 2.4 All-around Quality Management during the Training**

During the training, both sides appoint a special manager following up the whole process, being ready to adjust the training scheme according to the response of teachers and trainees. Apart from teaching activities in the classroom, the university also provides with a wide range of auxiliary activities to assist the teaching and support the core curriculum. With a specialized and independent quality management department for continuing education, Peking University has developed an integrated quality management handbook and information management system to support quality management from all sides.

**Subsection 2.5 Multi-dimension Evaluation for Training Efficiency**

Training efficiency evaluation is an approach to check the results of the training. Peking University adopts the four-level evaluation model established by Donald.L.Kirkpatrick. The model provides an all-around evaluation. It evaluates the training from four aspects: reaction, learning, behavior and results. Reaction level evaluates what participants think and feel about the training, by means of questionnaire and interviews. Learning level evaluates the resulting increase in knowledge, skills, attitude and behavioral pattern through examination. Behavior level evaluates participants’ change in job behavior due to training program in the form of internal assessment inside the company. Results level refers to the evaluation for the enterprise’s business performance or overall return on investment, based on the change in performance indicator. Evaluation of behavior and results level generally occur several months post training.
The evaluation result will be reported to teachers, training management staff of the university and HR department of the enterprise separately, serving for improvement in curriculum, training schemes and development programs of human resources.

**SUBSECTION 3 DIVERSE FORMS OF EXTENDED COOPERATION AFTER TRAINING**

University-enterprise cooperative training is not the only form of trainings between universities and enterprises. It is merely a starting point for future cooperation. When Peking University carries out a cooperative training with an enterprise, in general, such cooperation will continue. Firstly, the cooperative training may extend to every other departments, subsidiaries or other companies in the same industry. For the university, it may extend to trainings in different fields held by other departments with advantages in other disciplines. Secondly, other forms of cooperation may derive from the training. For instance, Peking University provides enterprises with extended consulting service, playing the role of a think tank, while experienced principles in enterprises are included in the teacher resources of Peking University and courses designed for enterprises are added into the curriculum of Peking University. Enterprises and Peking University work together to complete development of curriculum, training scheme and even products. Students in Peking University have more opportunities to intern or work at those enterprises. Enterprises have easier access to Peking University’s achievements in scientific research.

**SUBSECTION 4 INTEGRATE MULTI-CHANNEL ON-CAMPUS RESOURCES, MEET VARIOUS NEEDS OF ENTERPRISES**

While making the best of their advantage in disciplines to develop enterprise-university cooperative training, all departments in Peking University put a huge emphasis on the integration of on-campus resources, acting together to meet various needs of enterprises. Approaches for on-campus resources integration mainly include following four types. Firstly, different departments work together to design and development certain training programs in interdisciplinary fields. For instance, a
program named “Viewing Management from a historical perspective” is launched by Guanghua School of Management and Department of History, combining the two department’s advantages in management and history. Secondly, departments support one another in teacher resources during continuing education. Different departments may exchange teachers. For example, professors of School of Management are hired by School of Engineering to teach engineering supervision. Thirdly, departments collaborate with the alumni association in various regions to exploit market resources in continuing education training. Fourthly, departments collaborate with cooperation divisions in China, and bring enterprise-university cooperation into the frame of province-university cooperation.

SUBSECTION 5 FOCUS ON THE REACTION TO DISCIPLINE CONSTRUCTION

Continuing education is positioned to be an important carrier of universities’ social service, a bridge to connect universities with industries and enterprises, as well as a main platform to disseminate knowledge, cultivate talents and promote scientific achievements. Enterprise-university cooperation provides affluent information flow and capital flow for universities to grasp social needs, renovate research orientation and promote scientific achievements. Peking University has required all departments to be involved in cooperation projects highly relevant to their own discipline, ensuring an effective support for discipline construction during the university-enterprise cooperation.

SECTION 3 PEKING UNIVERSITY’S ACHIEVEMENTS IN ENTERPRISE-UNIVERSITY COOPERATION

Subsection 1 Foreign-owned Enterprises

Peking University has been in partnership with a number of world-famous large transnational corporations like Citibank, BMW, Novartis, Bayer, and Deloitte & Touche, in the field of enterprise-university cooperative training. Peking University helps
foreign-owned enterprises to fit into Chinese market better and improve the management level and operational capability of their Chinese employees. For instance, Sanofi, the prestigious transnational enterprise in pharmaceutical industry, has entrusted Peking University to hold continuing education trainings for its team of senior managers since 2010. Three training programs were held from 2010 to 2013. During these four years, evaluation results have shown a clear trend of continuous rise (as shown in Figure 4).
### Content of Teaching Evaluation

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<tr>
<th>Phase</th>
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<th>Evaluation of Teachers</th>
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<td>Phase I</td>
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Figure 4 Results of Teaching Evaluation for Sanofi’s Project of Leadership Development

#### Subsection 2 Domestic Enterprises

Among those domestic enterprises in partnership with Peking University for cooperative training, there are famous large enterprises including Lenovo, ICBC, CNPC and CMCC, and lots of small and medium-sized developing enterprises. Peking University has contributed to both the internationalization of domestic large enterprises and the modern management of small and medium-sized ones. For instance, the advanced workshop for private equity (PE) and company listing established by Peking University has held 65 phases during 5 years. Through the training, thousands of SMEs have learned how to seek, select and operate private equity investment fund, and how to formulate a scientific development strategy, based on which they can choose an appropriate model for capital operation and management and boost the company’s investment value. Many of them have successfully completed their listing in mainland China, Hong Kong or America, winning better opportunities for development.

#### Subsection 3 Discipline Development

What Peking University gets from enterprise-university cooperation is not only the
capital, but also discipline development, curriculum updates and transformation of scientific achievements. Take the case of Trout & Partners Ltd. as an example. Founded by Mr. Jack Trout, who is called “Father of Positioning”, it is a global leader of strategic positioning in consulting industry. Trout & Partners China was established in 2002. In the past dozen years, Trout & Partners Ltd. has helped a multitude of domestic enterprises to build a powerful brand, including JDB Herbal Tea, Dong-e E-jiao, Xiangpiao Milky Tea and Fotile Kitchen Ware. Among them, JDB Herbal Tea’s sales volume has increased from 0.1 billion to 20 billion in seven years. During its cooperation with Trout, Peking University brought in Trout's positioning courses as one of its excellent training courses. By now the course has been applied in 15 phases of trainings. Enterprise-university cooperation contributes a great deal to Peking University’s discipline development and curriculum development.

CONCLUSIONS & RECOMMENDATIONS

For conclusion, university-enterprise cooperation should not only efficiently works on human resources development on behalf of enterprises, but also helps discipline development of universities. To achieve these goals, universities must create permissive and independent environment, as well as scientific and flexible cooperative training procedure. Must integrate multi-channel on-campus resources to meet various needs of enterprises. University-enterprise cooperative training is a starting point for further cooperation.

REFERENCES


