

Consolidation Measures of Industry-Academia Cooperation for Human Resources Development of the Vocational Education Institutes

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Industry-academia cooperation, Innovative economy, Regional Sectors, Clusters, Sector Councils

Government, industry and colleges have insufficient understanding of the meaning of and strategy for industry-academia cooperation, which is essential in building an innovative economy and searching for substantive public policies and practices. They also do not have a proper grasp of the overall situation, performance and problems of the cooperative relationship between them.

This research is aimed at shedding some light on which direction should vocational education institutions, including junior colleges, polytechnics and vocational high schools, take in establishing industry-academia cooperation system in developing human resources as a major step toward becoming an innovative economy. It also intends to develop models for reinforcing mutual relations and collaboration between the three parties leading innovation, and to draw up schemes for promoting cooperation of them.

Industry-academia cooperation refers to cooperative activities between academic bodies, government, municipal government, government-sponsored institutes and industries, including developing manpower customized to meet the demands of industries and future industrial development, R&D for creating and expanding new knowledge technology, technology transfer to industrial sectors, and industrial consulting. It is not a purpose itself but a way to facilitate research and technology development, and produce competent human resources.

For the construction of an innovative economy, it is necessary to procure and utilize human resources from regional sectors, which form the foundation of social and knowledge capital clusters. For effective cooperation to take place, it is also necessary to be equipped with useful hardware (e.g. institution, law, finance, and facility), human ware (e.g. professionals, organization and leadership), software (e.g. industry-academia cooperation programs), and mind ware (e.g. cognizance and will of participation). Central and local governments should guide the way for developing human and knowledge capital in colleges and industries, and by supporting law, administration, and finance to them, show long- and mid-term programs overlooking the supply and demand of human and knowledge capital.

Although all legislative regulations related to industry-academia cooperation have provisions for the establishment of various types of committees and deliberative councils, they do not account for organizational compositions which include each ministry and office for cooperation. Therefore, it is necessary to prepare policies to promote cooperation and develop measures which would centralize the role of committees and deliberative councils responsible for those measures.

Case Studies of Industry–academia Cooperation

In Australia, vocational education and training systems usually focus on the industry body. It weighs on the development of national-standard vocational educations by requiring proper training, and on leading industry-academia cooperation. Cooperative programs in Australia make full use of the part time system. It establishes warrant-committees for higher education, and evaluates the operation of universities, since the federal government's educational policies are focused on the excellence of the quality of universities. It also constructs the industry-academia cooperation system suitable for local communities, activating a range of research centers.

In Korea, Doowon Technical College (DTC) is trying to build Gyeonggi IT-LCD cluster as part of industry-academia cooperation, guaranteeing the influx of labor force and knowledge from IT-LCD clusters in Paju, Suwon and Pyeongtaek areas through contract with the Gyeonggi Province for the training of technological and functional manpower.

DTC signed an industry-academia cooperation contract with LPL in September 2004, and received one billion won in 2005. And the college is supposed to get 10 billion won over three years through an industry-academia-government technology & function training plan of the Gyeonggi provincial committee. In February 2005, it also developed custom-made educational courses about four duties on the maintenance-repair manpower for equipment through joint DACUM between LPL and Doowon. And under the agreement of military authorities, DTC finally purchased a site (Paju, Bongamli) for Paju campus, offering display-related majors (500 persons), vocational training courses (500 persons), and professional college graduate courses (760 persons). In general, DTC promoted 5 major detailed projects to grow into a leading college, supplying Gyeonggi IT-LCD cluster with technological-functional manpower.

Now, DTC is making efforts to build industry-academy-research networks centered on the participation of learners. And it also plans to pursue mutual profits from LCD cluster, Gyeonggi Province, industrial high schools, and DTC. For this, DTC makes a detailed program to develop and research commercialization technology through LCD-related consortium in mechanic, electric, and electronic engineering fields. DTC also provides production-contact technology guidance, the rationalization of management & quality management, interpretation & translation, information-oriented IT, and bottleneck-technology guidance for small and medium enterprises such as a design supporting. To cope with the industrial structure that is becoming more advanced, DTC develops joint educational courses with LCD cluster and offers various educational programs to cultivate human resources.

Industry–academia Cooperation Innovation Plans of Vocational Education Institutes

Industry-academia cooperation should not be directed only at strengthening the abilities of educational institutions. It is an industrial body that plays a key role in the whole cooperation system. So, industry-academia cooperation should be of

much service to the industrial world. Government also should try to establish institutions and social systems for colleges and enterprises, in which they can exchange essential information without difficulty and satisfy each other's needs. Finally, it requires that local autonomous entities to also actively participate. At the local level, they should function as regulators, facilitators and investors like every ministry and office of the central government. At the end, industry-academia cooperation will contribute to the balanced development of regional areas and ultimately enhance Korea's international competitiveness.

The improvement plans for vocational education institutes include: the development of industry-academia cooperation strategies and road maps suited to the attributes of individual institutes, the foundation of practical business-centered education systems, the promotion of various forms of cooperation, the endowment of incentives for participants, the expansion of supporting professionals, infrastructure and finance necessary for cooperation, the reinforcement of ethics and cooperation in fields other than education, and the establishment of general organizations for industry-academia cooperation among industrial high schools.

Next, the improvement plans for industrial bodies involve the promotion of employers' recognition of the importance of industry-academia cooperation, the consolidation of human and financial support for vocational education institutes, the construction and activation of sector councils, and the initiative of forums for cooperation.

Last, the improvement plans for governments cover: the development of the national level of cooperation strategies and road maps, the arrangement of adjustment systems for cooperation projects and policies, the establishment of policy supporting structures, the expansion of comprehensive information systems for industry-academia cooperation, the preparation of manual and information for cooperation, the reorganization of administrative and financial supporting systems for localized cooperation, the reform of laws and institutions, the modulation of incentives for schools and industries, the expansion of financial supports, and the formation of social supporting systems to promote employment.