

KRIVET

Research 2015

Abstracts of Research Commissioned by
National Research Council for Economics,
Humanities and Social Sciences(NRCS)



Foreword

The Korea Research Institute for Vocational Education and Training(KRIVET) is a national policy research institute, established in 1997 with the mandate of supporting national human resources development policy and the Korean public's lifelong skills development. It is affiliated with the National Research Council for Economics, Humanities and Social Sciences(NRCS) under the Prime Minister's Office. Since its foundation, KRIVET has been leading the policy research in national human resources development and vocational education and training, while carrying out a range of research and projects in qualification systems, and development of education-training programs.

KRIVET has been publishing compilation of abstracts from each year's research projects commissioned by NRCS. This annual compilation of research abstracts introduces the research and projects conducted by KRIVET in 2015 to assist other related organizations and experts in the area to have better understanding of TVET in Korea.

It is hoped that this book will serve as an useful reference for the readers who may be concerned with human resource development and lifelong vocational education and training and contribute to the vitalization of vocational education and training as well as enhancement of the public's vocational competencies.



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Study on the Systematization of Qualification Laws to Implement the National Agenda on Qualifications with Efficiency

Young-Real Choi, Sang-Ho Kim, Hyoung-Han Yoon, Ji-Un Jung

This study dedicated to provide legal direction to systematically organize current laws on qualification as well as to codify to enhance efficiency and consistency in advancing national agenda on qualifications under implementing stages.

Around 70 acts such as “National Technical Qualifications Act”, “Attorney-At-Law Act”, and “Architects Act” are regulating Korean qualification system. “The Framework Act on Qualifications” consists of basic direction of management and operation of qualification system, establishment of qualification policy deliberation council, and private qualification. These acts belong to many ministries and contain articles on level, testing criteria, and eligibility for application of qualifications.

However, current “The Framework Act on Qualifications” has not sufficient clauses to conduct its role as a framework for qualification due to the total delegation of management and operation scheme of national qualifications to other laws except private qualification. Also, the clauses on major enforcement issues and delegation of power are ambiguous. There is lack of consistency among “National Technical Qualifications Act” and other acts since they are differ in regulating operation scheme of qualifications. Legal clauses which can systematically organize nation qualification policy agenda such as “National Competency Standards”, “National Qualification Framework”, “Learning Modules”, and “Process Oriented Evaluation Method” are not prepared. These cause policy mismatches on qualification each ministries are implementing as national agenda. Therefore, systematization of acts regulating qualifications is necessary to substantially support national policies on the operation and maintenance of

qualifications and to harmonize policies.

Having borrowed theoretical framework from two existing reports, “Theories to Make Basic Act” and “Criteria to Propose and Evaluate Law”, this study analyzed current Korean laws, current national agenda on qualifications and compared them with foreign laws related to qualifications. This study suggests five long and four short term strategies to systemize current acts on qualification and to legalize government agenda. The division of “The Framework Act on Qualifications” into two separate acts is one of the long term goals and addition of clauses defining “National Qualification Framework” immediately is one of the short term issues.

Research into the Management and Articulation of NCS-based Qualifications

Dong-Im Lee, Deog-Ki Kim, Yoojeong Nadine Seo, Ji Wun Jung

The articulation between NCS based qualifications involves cross-acknowledgement of the learning outcomes. It minimizes the repetition of the same or similar learning and contributes to promoting life-long learning. Currently, many qualifications have been designed and run based on NCS but little research looked into the overlap between them or the possibility of articulation.

This study aimed to 1) evaluate the current governmental qualification policy and the process in which the policy has been carried forward, 2) evaluate current state of NCS-based qualification management, 3) analyse the possibility and underlying issue in the articulating different qualifications, and 4) recommend the effective ways of articulating the qualifications.

The methodology included literature and text-data review, experts interview, questionnaire survey, content analysis of NCS based occupational qualification and VET courses, and a seminar to share the views and insights of involved parties.

Through the case study of overseas countries, questionnaire survey, and experts interviews, three recommendations can be made for the articulation of NCS-based qualifications. Firstly, prior learning should be unitized and acknowledged as credits of learning. Secondly, related contents of learning should be discussed and articulated in prior. Finally, related contents of learning should be analysed and recognised as learning credit. In comparison to the first recommendations, the final one differs in that the units of credit is not the same as NCS units of credit.

The study makes the following recommendations for the policy makers. Firstly, detailed credit recognition system should be established for the articulation between qualifications. Secondly, the establishment of NQF should be moved

up since it is essential for the articulation of qualifications. Thirdly, the methods and procedure of designing occupational qualification should be reformed. Fourthly, the size of current NCS competency units are irregular and should be improved. Fifthly, the assessment system of NCS based qualification and learning courses should be refined. Sixthly, various infrastructure such as the amendments of the related laws should be made for the articulation of occupational-academic qualifications (e.g., degree). Lastly, the issue of overlap between the contents of different occupational qualifications should be resolved. Should the issue be found to be difficult to resolve, it should be considered to merge the related qualifications.

Study of Private Qualification System Range

Sang jin Kim, Young Real Choi, Yu Jin Lee

1. Overview

After the operation of private qualifications has been specified by law through the “Framework Act on Qualification” since 1997, newly established and operated private qualifications have been increased exponentially. Along with that, it is a growing trend with the social problems, such as false and exaggerated advertising and abuse of insolvent private qualifications. Therefore, the government has established private qualification through “Framework Act on Qualification” revision to prevent the establishment of private qualifications prohibited areas in advance and improve the transparency of information about private qualifications. And it was requested to register obligatorily all private qualification that is currently operating.

However, the main problems that caused by compulsory registration of these private qualifications are as follows; (1) up to which level we should admit as private qualifications, (2) whether it is required of mandatory registration for all private qualifications that are autonomously operating in the private. It shows that the criteria also have to be provided as follows; starting from the fundamental debate alike ‘how to define the qualification,’ and ‘whether government has a right to intervene the qualification that led by private sector’ and ‘if government has such authority, what situation and extent would be appropriate.’

Based on such background, the study for setting the range of private qualifications is required in order to minimize political interference which appears due to the unclear range and private qualifications, and explore the direction of the desired national qualification and operating private qualifications that are right on the Korean situation.

The purpose of this study is to analyze the definition of private qualification, and clarify types, areas, and discipline of private qualification system through the analysis of the operational status in the existing qualifications, and derive

the future improvement of the relevant institutions.

For research topic, we examined the definition of the private qualification and the basic theory that becomes the basis of government intervention in private qualification, and analyzed the characteristics of private qualifications that are currently registered. In addition, through the Delphi survey with experts, we were seeking the direction of institutionalization for private qualifications, and based on that, proposed the institutionalization range of private qualifications and the improvements to the existing private qualifications.

2. Setting Private Qualifications System Range

A. Basic Directions

When setting range of private qualifications through relevant domestic and international case studies and the Delphi survey with experts, the basic direction to be taken into account would be as follows.

First, the private qualifications range is required to be set flexibly. Since the concept of private qualifications is corresponding with national qualifications, it is closely related to the national qualifications range setting. In addition, regarding national qualifications, the qualification type and range can be set differently, depending on how qualification system operates for each country or era.

Second, only minimal institutionalization should be applied with taking advantage of the characteristics of private qualifications. Since private qualification is literally the qualification that is operating autonomously in private sector, according to market logic, government intervention must be minimized.

Third, the institutionalization of private qualifications must be made in the national qualifications system operating side. Although institutionalization is necessary due to the market failure of private qualifications etc., considering the impact of this institutionalization on the overall qualifications system nationwide, it is necessary to determine the range and content of institutionalization.

B. Institutionalization Range of Private Qualifications

1) Institutionalized target of Private Qualifications

If government wants to institutionalize private qualifications, it should be only targeted for the qualifications that related with careers or jobs which are newly established and operated in private sector, based on the definition of qualification in “Framework Act on Qualifications.”

2) Institutionalized method of Private qualifications

When government institutes intervention on the private activities, it can be used for the activities to facilitate as the promotion method and limit as regulatory method, depending on the need of institutionalizing.

C. Improvements of Existing Private Qualifications System

Based on direction and range of the institutionalized private qualifications, the necessary improvements to the existing qualifications system in operation in the private sector could be presented as follows.

1) Improvements of Private Qualifications Registration System

First, accrediting system range that is required to register via private qualification shall be limited to one that related to careers or jobs.

Second, among private qualifications that registered based on current registration system, the qualification unrelated to careers or jobs qualifications should be excluded from private registration lists.

2) Reorganization of National Certification System for Private Qualifications

Governmental offering of institution to authorize for the qualification that led by private is already excessive intervention in the private sector, and it can be seen that it acts as a factor that inhibits the development of autonomous private qualifications market. Therefore, current national institution that authorizes directly the quality of private qualification should be abolished.

But even if an authorized institution is abolished, among private qualifications that already received nationally recognized qualification, there are qualifications to act on behalf of the national qualification since the establishment into a national qualification is difficult by law. Although the nationally recognized private qualification is not called as the national qualification, this has been utilized pursuant to national qualifications, for example, the related Act stated that the utilization of such qualifiers, etc.

Therefore, if the referred national accredited institutions for private qualification that led by government would be abolished, it is necessary to provide separately the recognized criteria for private qualifications that can be used in place of the national qualifications.

3. Subsequent Assignment

First, according to national needs, the research on criteria and procedures for the recognition of private qualifications into the national qualification is required. Since Korean government operates a national qualifications system based on laws, unlike North American countries do, if the criteria set by the government meets its demands, it is required adequate research and preparation in order to recognize as the national qualifications.

Second, arrangement of support plan is necessary for enhancement of autonomous private qualification market. Since, initially, government certification system that led by government for the private qualifications through “Framework Act on Qualification” did only very minimal contribution on advantage of private qualification, it is required to support for private qualification that led by private with introducing quality certification system, considering quality enhancement of the overall private qualifications.

Third, the periodic survey is needed for private qualification operation status. Although basic operating status statistics of private qualifications can be obtained through registration of private qualifications, the periodic inquiry that subjected to private qualification manager is also required in parallel in order to secure the private qualification information in greater depth.

Countermeasures for the Quality Management System of NCS-based Education and Training Curriculum

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1. Background

This study aims to explore countermeasures for the quality management system of the NCS-based education and training curriculum. Specifically, the objectives of this study were (1) to investigate the concepts and characteristics of NCS-based education and training curriculum quality management system, (2) to analyze its cases and trends in other countries, and (3) to suggest its countermeasures based upon the various opinions. To this end, this study used the research methods of (1) the literature review, (2) the specialists opinion survey, (3) the focus group interview, and (4) the site visit and personnel interview.

2. The Concept of the NCS-based Education and Training Curriculum Quality Management

A. The Concept of the NCS-based Education and Training Curriculum

NCS-based education and training curriculum has the characteristics of outcome-oriented curriculum which focuses on learning outcomes. The NCS-based curriculum, currently developing in the various ways, is defined as the activities for organizing educational contents and developing a certain level of vocational competencies required in a specific sectors using the NCS. And, with the point that unit of competency is the educable and evaluable function unit derived from vocational competencies required in the workplace, the NCS-based curriculum is generally reified as the combination of NCS units of competency.

Outcome-oriented curriculum specifies what learners can understand and perform at the end of course, and it does not specify the traditional curriculum elements such as learning objectives, learning process, learning knowledge, etc. Currently, our NCS-based curriculum generally defines learning outcomes based

on behavioristic approaches, aside from the application type of NCS-based curriculum. In other words, our NCS-based curriculum defines learning outcomes as observable performance verbs using the NCS performance criteria. Its main issue is how we can set up the relationship between competencies defined in the NCS and the learning outcomes in curriculum. We should consider the logical and systemic way of translating the NCS components into the educational learning outcomes.

B. The Meaning of Quality Management of NCS-based Curriculum

This study considers the quality management as the ongoing improvement activities for excellence of appraisal subjects. Therefore, the basic direction for quality management should be the activities for efficiently developing and implementing the NCS-based education and training curriculum. And, the NCS-based curriculum quality management systems should (1) be applied with the same management system in accordance with school types, (2) cover the overall area such as the planning and development of vocational curriculum, its implementation, recognition of learning outcomes, appraisal and feedback, etc., (3) link the NCS-based curriculum completion outcomes with the related qualifications according to the NQF, and (4) secure enough expertise of the stakeholders involved in the quality management systems. In this meaning, the NCS-based curriculum quality management system can be defined as the system that previously expected learning outcomes could be achieved through efficient implementation of the NCS-based curriculum.

3. Opinions about the NCS-based Curriculum

This study used the focus group interviews with personnels in the technical colleges, Polytechnics, vocational training institutions, and Industry Sector Councils. Its main results are as follows:

First, FGI participants agreed that NCS-based curriculum has the objectives of reducing the mismatch and increasing adaptabilities with workplace- or job-focused curriculum.

Second, although FGI participants shared the objectives of NCS-based curriculum, they explained the outcomes of NCS-based curriculum positively and negatively.

Third, all of the FGI participants replied that their institutions are expanding the application range of NCS-based curriculum. In this process, they pointed

out that their institutions are facing with the following obstacles: (1) the inflexibility of policy/institution management, (2) the difficulty of ensuring the facilities and equipments for experiment and practice, (3) teacher expertise, (4) the workload increase for learner assessment, and (5) concerns of trainees' learning motivation decreasing due to the frequent performance evaluation.

Fourth, for the certification system of NCS-based curriculum, the positive opinions and the negative opinions coexist among the FGI interviewees.

Fifth, due to the speedy development, it pointed out that there are many problems in the NCS. We can summarize the problems as follows: (1) the mismatch problem that the NCS does not reflect the industry needs, (2) the difficulty of agreement between the industry and the education during complementing the NCS, and (3) the NCS structures that make difficult allocation of enough learning time.

Sixth, through the NCS, the cooperation between industry and education should be established for efficient NCS-based curriculum.

4. Conclusion and Recommendations

A. Components for the NCS-based Curriculum Quality Management

Based upon the literature review and other survey outputs, this study suggests the components of NCS-based curriculum quality management as follows:

A. Maintaining consistency with the relevant NCS

A-1. Ensure logical validity of selecting NCS units of competency (or NCS unit elements of competency) relevant to the objectives of NCS-based curriculum or its targeting jobs.

A-2. Enhance the consistency between its learning outcomes and the NCS performance criteria.

B. Systematic design and planning of education/training programs based upon the NCS

B-1. Clearly set up learning outcomes after its completion.

B-2. Set training goals of NCS-based curriculum to meet the NCS system.

B-3. Flexibly utilize the NCS system to meet the local and workplace needs.

B-4. Design and plan the modular educational activities to reduce duplications or omissions of educational contents with the reference to the NCS units (or unit elements) of competency.

B-5. Include the NCS-based competencies (specialized vocational competencies in a particular area) as well as basic competencies (including vocational core competencies).

C. Efficient implementation of NCS-based curriculum

C-1. Sufficiently provide learners with the information about the education/training programs and the related qualifications.

C-2. Conduct the diagnostic assessment to provide the appropriate educational course to learners.

C-3. Ensure the learning materials, training facilities and equipments, etc. necessary to effectively develop teaching and learning activities.

D. Implementing learning outcome-oriented assessment systems relevant to the NCS systems.

D-1. Check whether the goals of NCS-based curriculum are achieved through the systematic evaluation planning and evaluation methods.

D-2. Ensure the currency of the assessment results for learners who complete the NCS-based curriculum.

D-3. Implement the system to provide appropriate feedback on assessment results of learning outcomes.

E. Expansion of the infrastructure for implementing the NCS-based curriculum

E-1. Develop teachers' expertise to design curriculum reflecting the industry needs, to develop teaching and learning activities relevant to development of learners' vocational competencies, and to assess learners' achievements.

E-2. Ensure the participation and cooperation of industry throughout the overall process of planning, design, implementation and assessment.

B. Recommendations for the Effective NCS-based Curriculum Quality Management Systems

First, the National Competency Standards should be supplemented and improved continuously.

Second, the NCS-based qualification standards and the National Qualification Framework should be set up.

Third, human infrastructure should be ensured for efficiently developing and implementation NCS-based curriculum.

Fourth, the governance structure should be set up for the efficient implementation of NCS-based curriculum.

Analysis of the Current Status of Using NCS Learning Modules

Seoung-Nam Kim, Ji-Young Kim, Min-Wook Lee, Hyang-Jin Jung, Jeehoon Hyun

1. Objectives of the study

This study aimed to investigate the current status of using NCS based learning modules(hereinafter referred to as “NCS learning modules”) in VET institutions so as to propose policy recommendations that could foster the use of NCS learning modules.

For the purpose, this study used qualitative and quantitative methodology including literature review, questionnaire survey, focus groups interviews, and case study.

This research was organized as follows. Chapter 2 presented the concept and key features of NCS learning modules followed by literature review on NCS learning modules and related policies. Issues related to NCS learning modules were discussed. In chapter 3, we conducted research surveys in terms of understandings, perceptions and the current status of using NCS learning modules in VET institutions. Survey design, methodology and its results were included. In chapter 4, we analyzed the six cases of VET institutions which had adopted NCS learning modules in their courses. Based on the research findings, chapter 5 drew a conclusion and policy recommendations to foster the use of NCS learning modules.

2. Research findings

(1) Survey

The survey was conducted to investigate understandings, awareness, perceptions and the current status of NCS learning modules, targeting 891 VET institutions including vocational high schools, colleges, polytechnics colleges and training institutions. Focus groups interview was also carried out to complement the quantitative data.

The main findings were as follows. First, the survey results showed that teachers' awareness of NCS, NCS learning modules and NCS related policies remained at low level. Second, it was necessary to provide specific guidelines, practical information during teachers training in order to help them to develop NCS based curriculum and to use those resources in their actual teaching. Third, while most of respondents answered that they were planning to adopt NCS based curriculum, a majority of vocational high schools had insufficient infrastructure to support the NCS based programs. In addition, they also felt that learning materials and assessment system to support the NCS based programs were not sufficiently prepared yet. Fifth, vocational high school teachers were less likely to experience NCS learning modules. This implies that the timing of introducing NCS based curriculum in school seems to affect teachers' experience of using of the learning modules. In addition, a majority of respondents showed negative attitude towards the use of NCS learning modules in their courses. Finally, many respondents responded that specific guidelines, supports for developing teachers competency, supporting staffs should be provided.

(2) Case Study

This study analyzed six cases of VET institutions that had used NCS learning modules in their curriculum and examined the way of using NCS learning modules. To do so, this paper focused on seven aspects : the characteristics of VET institutions, subjects of the courses, the way of using the NCS learning modules, the reasons behind the introduction of NCS learning module, course preparations, the evaluation of NCS learning module, others.

The main findings were as follows. First, many of instructors regarded NCS learning modules as supplementary materials rather than learning materials. Second, the decision of schools and teachers' own willingness seemed to affect the adoption of NCS learning modules in their courses. Third, instructors without industry experiences are likely to face more difficulties of teaching the contents of NCS learning modules. Those with job experiences also felt burden of teaching if they did not have any work experiences on the same areas. Fourth, the extent of schools' supports and coordinations for implementing NCS based curriculum and introducing NCS learning modules varied depending on VET institutions. Finally, the teachers' evaluation and attitude towards the use of NCS learning modules also varied depending on modules and schools.

Professors in the health care departments who could relatively easily apply the NCS learning modules were positive towards the outcome of adopting them. In contrast, professors in the field of cultural contents perceived it negatively.

3. Recommendations

Based on the findings of our research, we suggested four policy recommendations as follows. First, it was necessary to develop and share cases of using of NCS learning modules in the courses. Developing various cases of the use of NCS learning modules and establishing a platform for sharing cases of using NCS learning modules in VET institutions were likely to facilitate teachers to implement NCS base curriculum and use NCS learning modules. Studying some typical vocational high schools focusing on using NCS learning modules in their curriculum might provide useful informations to improve policies and support systems.

Second, it was required to increase instructors' awareness and to develop teachers' competency. To do so, it was necessary to improve the quality of training programs and to support teachers to reduce their burden of implementing NCS based curriculum. Developing on-line based teacher training programs and establishing support systems may helpful for fostering the use of NCS learning modules.

Third, it was necessary to improve the infrastructure for adopting NCS based curriculum and NCS learning modules. Policy support for vocational institutions to prepare proper educational equipments and facilities should be given. The way of distributing NCS learning modules should be improved. Monitoring systems for improving NCS learning modules were need to be established.

Finally, development system for NCS learning modules should be improved. It might be helpful to let VET institutions to adopt flexibly NCS learning modules. It might be better to improve development processes of learning modules and the structure. Updating system of learning modules should be established.

A Study on Core Manpower to Strengthen the Competitiveness of the Promising Service Industry

Tong Park, Hyang Jin Jung, Ga woon Ban, Woo Hyun Kwon

1. Outline of Research

The importance of service industry as a new growth engine and a source of new jobs for youth has been increasing. However, the competitiveness of Korea's service industry consistently ranks as one of the lowest among Organization for Economic Cooperation and Development(OECD) countries and the productivity of service industry relative to manufacturing is very poor compared to major countries. To strengthen the competitiveness of the service industry, more research is clearly necessary with regard to how to train and utilize core manpower who may be the foundation of the improved productivity through innovation in the promising high-tech service industry that has a great capacity to create jobs and improve growth potential.

This study aims to provide practical manpower policy measures in order to strengthen the competitiveness of the promising service industry. Accordingly, we selected promising high-tech service industry, that has a great capacity to create jobs and improve growth potential, based on the Korean government's Medium- and Long-term Manpower Supply and Demand Forecast in promising service industry. The core manpower was extracted through an investigation on actual conditions of and expert opinions about the promising service industry. A plan for core manpower training was suggested using the National Competency Standards(NCS).

This study is composed of as follows:

First of all, the promising service industry fields were selected and the definition of "core manpower" was drawn up. Based on the Medium- and Long-term Manpower Supply and Demand Forecast of the promising service industries that the Korean government selected in 2014, this study set the promising service industry as high-tech industry that has a great capacity to

raise growth potential and create jobs. The selected promising service industries were software and contents industries, including publishing activities (including software); motion picture, video and television programme production, sound recording and music publishing activities; broadcasting; computer programming, system integration and management services; creative, arts and recreation related services. Through experts advisory meetings and investigation of enterprises, the term “core manpower” was defined as “skilled manpower, from higher education sector, that is equipped with a network of people from all walks of life including R&D masters and doctors and an ability to create new useful products and services.”

Next, an international comparison analysis was conducted using the labor productivity index for the promising service industries. Data was matched for the international comparison analysis based on the OECD STAN DB. The result showed that the productivity of most industries in Korea was significantly lower than comparable countries. In particular, Korea was ranked as the lowest labor productivities of computer programming, system integration and management services and information service activities among OECD comparable countries.

Also, the market and manpower status of “software” and “contents” industries, which were selected as the promising service industries in this study, was examined and the governmental policies for those industries were investigated. The Korean government expects to see a shortfall in development-related manpower of approximately 80,000 in the software field. It is also urgent for the contents field to construct a system for training creative human resources and developing sustainable careers.

We examined a plan for reorganization of the curriculum for the purpose of training core manpower for the promising service industries. Considering the definition of core manpower in promising service industries - the skilled manpower with an ability to lead and expand the related market - the massive manpower training requires the standardized professional technologies to be equipped. Aware of the necessity of using the NCS for training the standardized manpower, the present study investigated the current states of the NCS introduction and the core manpower training in the software and contents fields, and thereby, provided useful policy implications.

An investigation was conducted to find policy measures for enhancing the overall competitiveness of the promising service industries, and then, the result was analyzed. As such, we attempted to provide important policy implications

for the development of Korea's promising service industries.

Lastly, practical manpower policy measures for enhancing the competitiveness of the promising service industries were provided, including manpower policies for training core manpower and creating jobs in the promising service fields, a higher education reform for advancement in the service field and the improvement of governmental policies.

2. Main Findings

This study analyzed surveys of enterprises so as to prepare ways to train core manpower for an improved competitiveness of the promising service industries. Based on the findings, we obtained several important implications as follows:

First, the loss of manpower was not properly compensated, with the promising service fields including software and contents fields having general backwardness compared to OECD countries. In Korea, the software field has long been degraded into so-called "3D jobs." Problems that Korean employees experience such as low wages, poor working conditions and long hours of labor are the greatest obstacles to the advancement in the promising service industries.

Second, the promising service industries had met several difficulties due to the rapid technological changes and had a very high turnover rate due to their vulnerable industrial ecosystem. As rapid technological changes require active responses to new technologies, the necessity for related educational training has been realized.

Third, it is difficult for new college graduates to secure the opportunity to systematically build their career since the preferential employment for experienced individuals appear more commonplace in the promising service industries than any others. The result showed the perception that the preferential employment for experienced individuals prevails was higher by 28.6 percentage point than otherwise. Nevertheless, in terms of routes for career enrichment, 46.0 percent of respondents answered that it is desired for new employees including new college graduates to build their career during their employment, displaying an ambivalent attitude. Therefore, it is urgent to find systematic ways to ensure the career enrichment of new college graduates in order to improve the youth employment rate.

Fourth, it was confirmed that Korea has a poor level of training system for creative human resources. Among a total of 150 respondent enterprises in

the promising service industries, 56.0 percent answered that Korea does not foster creative human resources. On the other hand, only 7.3 percent answered positively. The negative views were eight times more than the positive opinions. This shows the cause for Korea's repeated failures in training creative human resources. In other words, it implies how dysfunctional the Korean college education has become in reinforcing the students' creative capabilities.

Fifth, it was confirmed that college education does not reflect the needs of industry. The opinion that it does reflect the needs of industry and the opinion that it does not are 11.3% and 38.6% respectively. This can be seen that negative opinions are more than 3 times higher than positive opinions. As a result, the opinion that the new college graduates' business ability is low is 46.7% whereas the opinion that it is high is only 2.7%. The opinion that the new college graduates' adaptation to workplace is high is only 8.0%, whereas the opinion that it is low is 34.0%, which is more than 4 times its opposite. This shows the reason why enterprises avoid hiring new college graduates.

Lastly, it was confirmed that governmental policies for promoting the promising service industries do not function properly. As for the question of whether governmental intervention is useful for the development of the promising service industries, 41.4 percent answered "No, it is not.", which was a 20.1-percentage point higher than the opposite(21.3%). This shows that opinions against governmental intervention for the development of such industries are dominant. Especially, the opinions that government projects for creative industry promotion are useful for the industry development are 7.4%, whereas the opinion that it is not is 50.7%, indicating that government projects for creative industry promotion are not helpful in the development of such industries.

3. Policy Recommendations

- 1) Construction of industrial ecosystem for the advancement of the promising service industry

The competitiveness of Korea's promising service industries ranks one of the lowest among OECD countries. According to the international comparison results in this study, Korea has a much lower labor productivity than other comparable countries. Korea's lowest rating in global competitiveness among OECD countries implies that Korea has such a low level of creative capabilities.

Promising service industry tends to be degraded into one of the so-called 3D jobs, causing the lack of outstanding workforce. In this regard, it is urgently needed to push ahead with policy improvement plans throughout the industry ecosystem such as the better treatment for manpower in such industry and the establishment of fairness-oriented business.

2) Establishment of a career development system to foster new employees as core manpower in the promising service industry

New employees in the promising service industry usually have difficulties in getting a job due to the preferential employment for experienced individuals. Even after getting a job, their development into core manpower requires much time and difficulties. Due to the fear of the cost of hiring and training new employees, small- and medium-sized enterprises as well as large-sized ones tend not to hire new college graduates. Therefore, it is urgently needed to prepare practical measures to assist them in developing their career at least 1~2 years. Only when a mid- and long-term training system and a systematic career development plan throughout their career journeys are built up for new college graduates, the youth employment rate may be improved and maintained.

3) Core manpower training through a higher education reform based on the needs of industry

The results of this study showed that the curriculum does not properly reflect the needs of industry. Considering that negative opinions about its reflection were 3.4 times more than positive ones, a huge change that reflects the needs of industry should be made in college and university education. For the improved compatibility of college education to field, some measures such as the expansion of the field-based curriculum(46.7%), the development of an industry- academia joint manpower training program(19.3%) and the establishment of an industrial manpower training center(16.0%) need to be taken. Education that reflects the needs of industry, such as the expanded opportunity for field participation(e.g. internship)(45.1%) and the organization of a field-based college curriculum(35.3%), is also required to improve the presence of education.

4) Promotion of core manpower training in the promising service industry through the NCS

The results of this study showed that enterprises in the promising service industries as well as the Korean government have raised the issue of absolute insufficiency of core manpower. Of course, the core manpower training should be pushed ahead with by developing practical capabilities in the field through career enrichment from a mid- and long-term perspective. The problem is that it is difficult in promising service industries such as software and contents industry to train a lot of core manpower in a short period of time. Therefore, the standardized manpower should be first fostered and subsequently provided with further assistance in developing their business career, so that the manpower required by promising service enterprises may be cultivated in a relatively short time.

5) Item development support for new industry creation in the promising service field

The results of this study showed that even though the development level of Korea's promising industry greatly falls behind other OECD countries, many respondent enterprises in the promising service industries answered that job creation is difficult due to the market saturation. This implies an urgent need to develop new business items for further development of the promising service industries. In other words, support for the research and development in such fields should be expanded to create future income sources. In this regard, we need to consider various strategies including the release of the Government's information, public offering of enterprises' or research institutes' R&D concepts, a systematic patent use and the Government's active investment in the R&D.

6) Reinforcement of the effectiveness of the Korean government's creative economy policy such as youth entrepreneurial policies

According to the result, the methods to reinforce the effectiveness of the Government's creative economy policy include the enlargement of financial support for market exploitation(42.0%) and the cultivation of core manpower required by enterprises(22.0%). Thus, the government should foster competent individuals with a certain level of field experiences through education and also enlarge support for market exploitation. Given the views and opinions that public supply has failed to contribute to the development of these industries, the development plans using public supply need to be prepared as well.

More importantly, the Government needs to actively enforce business incubator policies for the promising service industries. The opinion that the effectiveness of the Government's youth entrepreneurial policy is low was 42.7 percent, which was 6.0 percent higher than otherwise.

Study on the Measurement of Skill Deprivation and Labour Market Mismatch

Ga-Woon Ban, Bom-I Kim, Min-Kyoung Kim

With an ageing issue arising as a policy priority across OECD countries, decline in productivity among aged population has drawn much attention among policy makers. Adding on current literature on skill depreciation, this study develops an empirical measure of skills depreciation, estimates depreciation rate of education, and compares depreciation rates across OECD countries. Using PIAAC data on skills proficiency over population, this study derives measures for skills depreciation since the completion of formal education.

Results show that the depreciation rate of education is under 1% per a year across countries. Which means, its causing skill depreciation rate much smaller than 1%. Like previous longitudinal studies which do not report clear age-related decline of cognitive skills until 60's and 70's, the estimates don't show huge depreciation. Among OECD countries, Korea shows the highest cognitive skill depreciation rate same as depreciation rate of education.

Intellectual challenge at the workplace is of high significance as causes of skill depreciation. These findings suggest that skill use prevents depreciation from occurring, shedding light on the importance of making workplace more skills friendly as well as participation in learning activities.

This study also measures the labor market mismatch focused on a qualification mismatch. Compared to the OECD countries, Korea's over-education and over-skill is more serious than under-education and under-skill. Because the cognitive skill of Korea is lower than OECD average, skill problems in Korea may be caused by a demand side. Over-education mismatch is related to a low intellectual challenge at the workplace. Which means, labor market mismatch can affect a skill depreciation. So, over-education is not only the problem of youth unemployment, but also of middle-aged or elderly people's skill depreciation.

A Study on Tertiary Vocational Education Finance and Its Decision System

Chae Chang-Kyun, Ryu Han-Gu, Yang Jung-Seung,

1. Empirical results

We did diverse empirical analysis on the effect of current change of tertiary vocational education institutions to government-dependent ones that have national and social responsibilities with expanding financial supports. The result shows that additional financial supports are needed and it is desirable to change to government-dependent institutions. The results can be summarized as follows.

At first, while the shares of public tertiary institutions were almost 100% in most of OECD countries and even 64% in Swiss where the share was relatively low, they were so low in Korea, Japan, and Netherlands, and only 2%, 8%, 10%, respectively. In addition, education investment were made better in high public-owned countries than in high private-owned countries.

At second, we estimated the rate of return on tertiary vocational education investment by internal rate of return method. The result shows that the difference in the rate of return between tertiary vocational education graduates and college graduates has diminished a little since 2000 and there is even possibility that it disappear in near future. Considering this narrow difference, investment on tertiary vocational education is plausible in efficiency respect. At least, if we consider the equality and other social environment, increasing investment on tertiary vocational education is needed.

At third, we regressed the decreasing rate of tuition model by OLS and estimated the logit model of half-tuition realization. According to the results, the decreasing rate of tuition and probability of half-tuition realization are lower in vocational education than in college. This is because the number of public tertiary vocational education institutions is very small and scholarships other than national scholarship are scarcer in vocational institutions than in colleges.

At fourth, we analyzed the school effect by school types and found that tuition per student, the number of full-time teachers per student, the amount of financial support per student made positive effects on employment. This implies that increasing the financial support for schools and students can help the graduates of vocational tertiary institutions to get employed.

At fifth, we did DEA analysis on management efficiency of tertiary vocational institutions. The result is that relative efficiency gaps among vocational tertiary institutions are not negligible and a lot of vocational tertiary institutions are run inefficiently. In addition, public-financed vocational tertiary institutions are more efficient than private ones, which comes from POLITEC effect.

At last, we looked into management and current situation of POLITEC that are more efficient than other vocational tertiary institutions. We found that the core of POLITEC's competitiveness is factory learning system which is the model to increase the students adaptability to industry workplace. The characteristics of the system are industry-driven projects, workplace-based education, small group directed by instructors, and firm's responsibility.

2. Policy implications

This study proposes that government-dependent vocational tertiary institutions need to be increased. At least 50% of vocational tertiary institutions need to be changed progressively into government-dependent ones but the change should be made by voluntary decisions of individual private vocational tertiary institutions. And the change need to be admitted based on pre-determined processes.

It is desirable that only one government-dependent tertiary vocational institution is set up in each region and makes economies of scales through integration of diverse institutions. Exploiting of current POLITECs is another alternative because their management performance are excellent and efficient. For these government-dependent tertiary vocational institutions, financial supports should be made by performance agreements or contracts.

Panel Research Design on Transition from School to Labor Market

Han-Gu Ryu, Chang-Gyun Che, Ji-Young Ryu

This study is to prepare Korean Education and Employment Panel II (henceforth KEEP II) which will be conducted from 2016. Sample design, question design, and overall research design was carried out by reviewing domestic and international panel research including Korean Education and Employment Panel(henceforth KEEP).

Above all, with consideration of limited sample size and various school types(General High School, Autonomous High School, Specialized High School, Special-purpose High School, etc.), the direction of KEEP II sample design is to design a sample for 1 cohort to increase the efficiency of material utilization for the limited sample size. Considering research on various types of school and the minimum number of students per school, 400 schools are extracted and 10,000 students that are the total of 25 students per school will be surveyed for sample size. Distribution of schools by school types has the principle of proportional distribution in accordance with the proportion of students. However, allowing for the minimum number of samples in the case of a relatively small proportion of Characterized High School, 10 schools will be extracted for each type.

The following is the study of question design. KEEP II is being developed fundamentally based on KEEP survey questions. Trends between the generations can be analyzed in the connection with existing panel as well as the utilization of the panel report when using the survey questions without alteration.

In this study, in total of 7 itemized expert meeting was held for question development. Through these meetings, review and modification of existing survey and development of new survey was made.

Students in the second year of high school will be surveyed consistently as

panel for an object of KEEP II. And because there is need to understand the conditions surrounding this panel, survey on school administrator, class teacher, and the guardian of the household is going to be combined at the same time.

Expected progression of the current plan is to take household survey in the first year, and conduct survey on school administrator and class teacher at the time of the third year of high school. Survey on the conditions except students will be carried out once, but household survey can be conducted once more with brief questions after reaching adulthood if needed.

There is a need to conduct an annual survey as the effect of school should be grasped enough over the second year and the third year in the stage of high school. But it seems to be no big problem in conducting survey in the period of every two years after reaching adulthood and entering the university or labor market. In the year of when KEEP II is not going to be conducted, the method of combining KEEP is also in the consideration.

The policy implications that can be analyzed by the data analysis of KEEP II are as follows in detail.

First, as youth employment problem related to youth job hunting, regular/non-regular work issues, quantitative and qualitative mismatch, etc is generally occurring. Therefore comparative analysis on trends with the last 10 years can be done.

Second, by empirically determining the performance of the secondary vocational education activating policy, that is enforced in both present and former government as core national policy agenda, can be used as basic material in future vocational training policy making.

Third, through a comparative analysis of career paths which revolved around career and aptitude of student or parents, the performance of human resource utilization can be maximized.

How to Reform Human Resource Management System in Company for Building the Meritocratic Labour Market

Dong-Man Na, Young-Sup Choi, Bom-I Kim, Joo-Hee Chang, Soo-Rin Yoon

There has been a recognition that blind pursuing of high education level and academic clique are great tools to get fine jobs as well as to improve social status in Korea. For this recognition, labour market in Korea is facing some issues such as discrimination, unnecessary social expenses. The concept of a “Meritocracy” is a new alternative in order to overcome the problems caused by the blind pursuing of high education level and academic clique.

This study defines the meritocratic labour market and meritocratic human resource management. The first concept, the meritocratic labour market, is a social system founded on the belief that individuals should be chosen and moved ahead for their abilities rather than only for their educational background (elitism) or level. The latter concept, the meritocratic human resource management, is a system which evaluates individual competency and capability on the basis of their performance measured through examination and/or demonstrated achievement in the field where it is implemented by reflecting the value of meritocratic labour market. This study premises the interactive relationship between both concepts.

In terms of institutional isomorphism theory, the implement of government policy for reforming human resource management could be a problem because it should be operated by external pressure regardless the managerial efficiency of a company. Moreover, due to lack of experience, it is hard that meritocracy in human resource management can bring the effectiveness and outcomes even though the enterprises implement the system.

The government selected some public agencies to carry out the human resource management based on meritocracy, however the outcomes of system’s application has been not verified. Hence the symbolic adoption could appear in this situation. It is necessary for the government to encourage a company

to accept and implement the meritocracy in human resource management system with understanding its value internally, and to develop the policy considering the systematic traits of them.

This study performs the empirical research to find out the relation between the trait of human resource management system and performance. The result of analysis shows that the implementation of meritocratic human resource management does not lead better performance, especially, the human resource management system could be adjusted and differentiated in various environment of a company based on the result of HCCP(Human Capital Corporate Panel) analysis. It is necessary to confirm constraints and obstructive factors in the process of reforming the human resource management system. The result of FGI with human resource managers shows that there is a agreement that implementing the meritocratic human resource management is necessary, however they find the difficulty to operate the system. Several concerns are the absence of definition about competency the company requires, measurement for accurate evaluation and material as well as human resource to implement the system. The government support is essential for a company to overcome these concerns. In conclusion, meritocratic HRM is not a best practice for all companies, the trait of individual company and job should be considered for reforming HRM system.

How to Improve the Governance to Adopt Competency-based Training System in Korea

Jihee Choi, Young-Sun Ra, Sookyoung Lee, Youngsup Choi, Seung-Hyun Moon

1. Overview

The ever increasing youth unemployment coupled with the ageing workforce requests ever more efficient training system. To address these issues more effectively, the Korean government has recently introduced a numerous demand-driven, competency-based training arrangements such as National Competency Standards(NCS) and Work-Study Training Programs which is similar to Swiss Apprenticeships.

One of the major characteristics of these competency-based arrangements is that they need strong involvement of industries for their successful operation. This is quite a challenging task considering the tradition of weak industry involvement in VET in Korea and the fact that industries do not have long experience with solving their HRD problems collectively. In other words, we need to transform the present VET governance structure to make the new arrangements work.

This study aims to identify key policy issues to be addressed in order to establish a new governance system to support newly introduced demand-driven training arrangements. The study focuses on the role of industries and their organization as a new stakeholder in the governance.

To achieve this goal, the study went through the following steps. First. it looked at the making of newly adopted training arrangements in Korea, how they are being operated and what the major issues are, with focus on the role of industries. Secondly, it analysed the current status of 11 Korean Industry Skill Councils established so far, with focus on the roles they play in operation of new training arrangements. In the process, we conducted a in-depth interview of the major personnels in each ISC to gather information on how ISCs are adapting to new training arrangements and what their major

challenges are. Thirdly, we looked at the overseas examples of competency-based training arrangements which played actual models of newly adopted training arrangements in Korea; We analysed the governance of the Training Package system in Australia and that of Swiss Apprenticeship with special focus on the role of industries and skill sector councils. Then, we also analysed the financial support mechanisms for the Sector Skill Councils practiced in United Kingdom, to benchmark on how to measure the achievements of sector councils, which can be used as a basis for their subsidy.

Finally, based on implications drawn from the results, we made policy suggestions on what policy initiatives to be undertaken to improve the current VET governance in Korea.

2. Major Results and Their Implications

In Chapter 3, we looked at the current status of 11 Industry Skills Councils in Korea. They are all involved in the operation of newly introduced government training arrangements. Their roles are; development and continuous improvement of National Competency Standards, development of New Qualifications, which can be obtained by participating in Work-Study Programs, and consultation of forms regarding how to adopt NCS-based HR system, etc.. While the ISCs in Korea widely accept their roles as a partner in the new governance structure, they all pointed out that there are rooms for improvement. They wanted increased partnership with the government and bottom-up communication style in implementing the training arrangements. They also wanted their roles in the new training arrangements to be more specific and focused on the core activities that reflect key functions of sector councils. They asked for the clear blueprints of their prospects provided by the government.

The foreign examples of competency-based training arrangements in Australia, Switzerland and U.K surveyed in Chapter 4 provides implications for the direction of improvement of our VET governance system. The ISCs in Australia are assigned clear roles in the operation of competency-based training, which are development of Training Package qualifications and standards. Each ISC is given quite a degree of freedom in pursuing other activities that fall into the category of major functions of sector skill councils in Australia. The case of Swiss Apprenticeship provides an example where industries are involved throughout the whole VET process, from the development of job standards to direct delivery of training. Sector councils in Switzerland are involved, with

the help of Swiss Federal Institute for Vocational Education and Training (SFIVET), in the process of development of qualifications and job profiles, development of VET curriculums, and development of learning materials for each learning venue (school, workplace, off-jt learning center). Industries are involved in process of test and certification.

The case of U.K shows an example of how to subsidize the core activities of sector councils involved in the VET process. In U.K., Sector Skills Councils are evaluated based upon their performance according to the Key Performance Indicator(KPI). They are given more autonomy in their activities since they can set up their own evaluation indicators within the guidelines specified at the contract. Also, in U.K., the inspection of ISCs are performed by a non-governmental organization, which is U.K. Commission for Employment and Skills, which emphasizes the role of the private sector in the governance.

3. Policy Suggestions

Finally, we made following policy suggestions based on the outcomes of our analysis.

First, we propose that the capacity of the industries be strengthened to meet their role as an important stakeholder in the governance. To do so, the financial autonomy of ISCs needs to be secured, clear and specific roles need to be assigned for the ISCs to perform, and the identity of ISCs needs to be made clear to themselves as well as to other parties in the governance. Also, the ISCs need to continuously improve their representativeness and expertise to assume their roles properly.

Second, the competency-based training arrangements that are recently introduced need improvement themselves. These arrangements play the role of subject materials ISCs work on. If the material is not right, the final products can't be good ones. The classification system of NCS needs to be improved, and policy initiatives need to be taken to make the qualifications ISCs develop widely-accepted in the market.

Third, public-private partnerships needs to be strengthened. In Korea, the private sector has still a weak bargaining power in public-private relationship. To work together in the governance, this kind of relationship needs to be changed. There should be more communication between the public(government) and private(industries) sector and it should be a two-way, bottom-up style communication.

Finally, there should be a ongoing dialogue between the industries and training institutions, since their roles need to be redefined in the new competency-based training system. There should be ongoing cooperation and discussion on who should take which roles and how to deliver the competency-based training in detail.

A Study on the Status of Operation and Improvement of Apprenticeship

Seung-Hwan Jeon, Soo-Kyeong Lee, Han-Byul Lee

1. Overview

The purpose of this study is to suggest the improvement for successful operation of Korean apprenticeship through examining the status of operation of current apprenticeship system. The specific purpose of this research is to do the following:

- 1) Analyse the concept, policy stream and the difference between similar system
- 2) Examine the status of operation of apprenticeship system
- 3) Investigate the operation cases of apprenticeship
- 4) Suggest the improvement strategy for successful apprenticeship system

2. Research Method

This study reviews academic literature and performs FGI, case study, expert meeting, and seminar in order to meet the purpose.

The literature review focuses on the concept, the components, progress and current status of apprenticeship. Also it analyses similar system to apprenticeship and identifies the related policies and programs about apprenticeship.

FGI was conducted to build the successful improvement strategy for apprenticeship through investigating the status of operation of current apprenticeship system. FGI was performed five times based on structured questionnaire. The first three interviews were for the status of operation and the second two interviews were for finding out the improvement of apprenticeship.

The visit and interview for case study of company was performed to understand the company's situation and develop the improvement of apprenticeship. The companies which joined the visit and interview was selected by criteria; available for visit and interview, participating in apprenticeship longer than 6

months. Also, it considers types and fields.

The expert meeting was conducted to evaluate the validity of results for progress stages and to raise quality of the study. It consists of policy makers of government department and the experts of vocational education, training and qualifications. The seminar was performed to develop the strategy for improving apprenticeship through sharing the research results and discussing the core agenda.

3. Main Results

1) The Concept and Policy Trend of Apprenticeship, Comparison with Similar system

Apprenticeship is defined as “a new educational, vocational system designed based on German and Swiss apprenticeship system. The in-company trainer teaches apprentices according to the text books based on NCS(National Competency Standards), while the training organization provides academic courses complementarily. It offers qualification after the apprentice completes the proper courses(Relevant Ministries, 2015: 1).”

Meanwhile, the similar system to apprenticeship includes work-based learning such as ‘2·1 system of technical high school, internship, field practice’ and work first-then to college system such as commissioned education, contract department, college in company. The work first-then to college system differentiates from the apprenticeship in terms of focusing on getting degree of high school graduates jobholders. This study explains the similarities and differences of the related systems based on main components of vocational education and training.

2) The Status of Operation of Apprenticeship

The status of operation of apprenticeship was analysed based on 5 FGI results and 9 cases of companies, and it consists of three aspects; design, operation and outcomes of system. In an aspect of designing system, a) purpose, b) governance, c) budget status were considered. In an aspect of operating system, a) selecting company and training center, b) development and verification of apprenticeship program, c) educating and managing in-company trainers and HRD staffs, d) recruiting apprentices, e) operating apprenticeship program, f) internal and external evaluation of apprentices, g) monitoring and consulting were reviewed. In an aspects of outcomes, a) economic outcomes,

b) social outcomes, c) apprentices' outcomes in labour market were considered.

<Table 1> The status of operation of apprenticeship

		Challenges
Design of System	1. Purpose	1) Raising the quality of system 2) Dilemma between firm-specific and standardized curriculum 3) Concern about programs linked to college degree
	2. Operation system & Governance	1) Government-led operation 2) Complicacy of governance system 3) Focusing on control more than support
	3. Budget	1) Complicacy and redundancy of budget execution 2) Continuity of government support 3) Government support as inducement and control measures
Operation of System	1. Selecting company & Training Center	1) Controversy about standards of selecting company 2) Non-participation of selected company 3) Absence of operation model for different types of training centers 4) Difficulty of matching training center and company
	2. Development & Verification of apprenticeship program	1) Lack of company-led program development system 2) Frequent change of program development standards and difficulty of ensuring compliance with NCS 3) Absence of quantitative verification standards
	3. Educating & Managing in-company trainers & HRD staffs	1) Burden of cluster education 2) Effectiveness of educating trainers 3) Concerns about wrong payment of allowances
	4. Recruiting apprentice	1) Difficulty of recruiting apprentices 2) Concerns about apprentices' transfer 3) Dropout due to military duty
	5. Operating apprenticeship program(OJT/Off-JT)	1) Limitation of OJT quality assurance 2) Difficulty of training center's Off-JT operation
	6. Internal & external evaluation of apprentice	1) Absence of internal evaluation guideline 2) Lack of operation system for external evaluation 3) Uncertainty of granting nationally-recognized qualification after completing the program
	7. Monitoring & consulting	1) Administrative burden due to monitoring 2) Short of staff for monitoring and consulting
Outcomes	1. Economic outcomes	1) Financial efficiency through gradually decreasing government support
	2. Social outcomes	1) Increase of long-service of workers in small sized company 2) Lack of ethics and learning capability of apprentice

3) Improvement Strategy of Apprenticeship

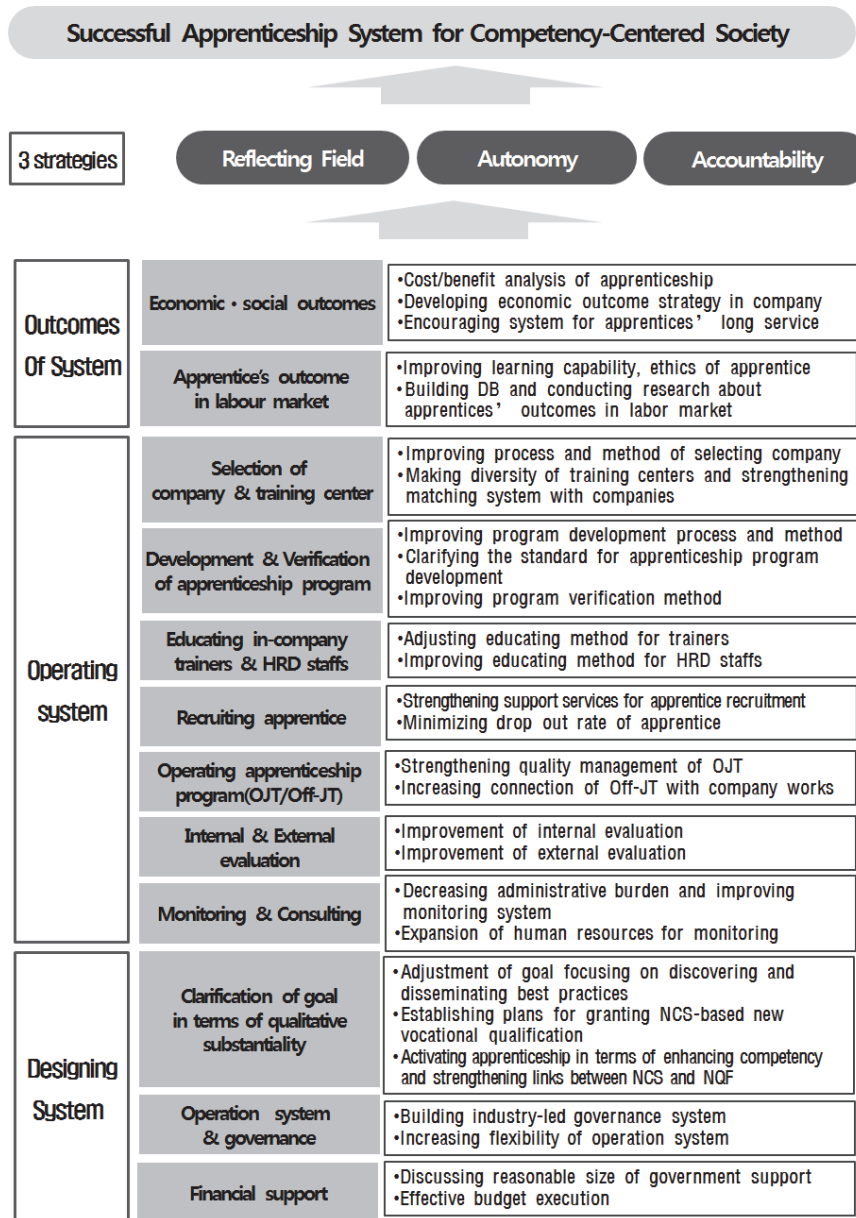
The improvement strategy of apprenticeship examines the direction of apprenticeship based on the result for the status of operation and sets up the specific strategy and task through the FGI and expert meeting.

There are three strategies to improve the operation of apprenticeship system; reflecting field, guarantee of autonomy and accountability.

Firstly, it is required to adjust the operation paradigm of apprenticeship through reflecting field situation. In other words, it is necessary to transform from government/ supplier-led system to industry/consumer-led system. Secondly, it is important to guarantee autonomy of companies and other participants. It is required to minimize the administrative management and formal procedure and to operate focusing on outcomes of the system. Thirdly, the participants of apprenticeship should have accountability about educating and training human resources within local community and industry. It means that they are responsible for training important man power with not short-term and micro-level, but long-term and macro-level.

The study suggests the 28 tasks of 12 items in three aspects for operation improvement of apprenticeship based on three strategies; a) aspect of designing system, b) aspect of operating system, c) aspect of outcomes of system.

[Figure 1] Strategy & Tasks for Improvement of Apprenticeship



The Demand Survey and the Short and Long Term Development Plan of College of Further Education

Ki-Hong Kim, Il-Gyu Kang, Soo Kyoung Lee, Young Jun Heo, Hee-Kyung Cho

1. Research Outline

According to the pre-employment·post-entrance into a college support policy the portion of employment of specialized high school graduates is on the rise. Nevertheless, their desire for entrance to college after employment remains unabated. With the implementation of a policy that expands opportunity for college of further education, most of junior colleges, four-year universities and cyber universities including the air and correspondence college provide college of further education such as contract departments, special admission for incumbent workers and industrial consignment education. Operating colleges and entrance quota for college of further education are recently sharply growing but substantial educational needs do not meet the circumstances. And demand survey on college of further education of incumbent workers from specialized high school or meister high school, the main object of the pre-employment·post-entrance into a college support policy remains unfulfilled. It is important to secure sustainable demand of incumbent workers involving in college of further education to invigorate college of further education, and it needs to establish a system for securement of quality management so that they can supply college of further education that secure the opening of the departments considering regional condition that they desire and the educational quality of the departments. The research aims to and present short and long term development plan by conducting the detailed analysis of educational demand on college of further education of specialized high school or meister high school graduates and grasping demand by type of college of further education that incumbent workers desire through actual state and needs investigation based on such necessity and legitimacy. Also the research methods to draw

objective and valid results include literature research, field interviews and expert councils.

2. Research result

1) Reformation of reconstruction and operational requirements of college of the further educational type

There should be the arrangement operational differentiation through dualization of contract departments, special admission for incumbent workers and industrial consignment education of college of the further education arrangement and the self-study bachelor's degree and the credit bank system of lifelong education. With the prerequisite for reinforcing cooperative education through articulation of degree acquisition and industry, the type of college of further education should be merged into contract departments. Such rearrangement of the long term operational arrangement meets the educational meaning with the current individual type. It is desirable for special admission for incumbent workers to be absorbed and convert into the existing lifelong education system. As the industrial commissioned education, because the type of college of the further education has the more significant meaning of the entrance institution to leave a route open for special admission into the college to specialized high school or meister high school graduates, the meaning of the entrance institution type should be absorbed into the existing credit bank system or the self-educated bachelor's degree system. For the advancement of college of further education system it needs to apply equally to requirements such as an entrance quota and educational financing, entrance qualification. And for contract departments and industrial commissioned departments that make much account of industry articulation for educational cooperative it needs to come up with entrance requirements and an entrance quota applied equally and support measures. Contrary to this, for the special course for incumbent workers that desire advanced degree acquisition and individual self-actualization of incumbent workers it needs to convert in the directions to extend learners' autonomy through articulation with the lifelong education system.

2) Measures to ensure the demand involving in college of further education

It needs to do regular demand surveys at the region level for college of further education, which should be used for building database survey results on such participation and a routine monitoring system or figuring out the

national policy on college of further education and skills demand of local industry and the establishment and the participation demand of college of further education of local colleges. It needs to build industry-college articulation support network with local industry and build a substantial management system of industry as a participation subject and participating incumbent workers to ensure the demand of participating colleges that provide college of further education. Also it needs to designate and operate a college of further education.

3) Opening and providing college of further education that education consumers desire

It needs to open college of further education that education consumers desire and create a model of further education management considering applicants' career and systemize the education support service. Along with this, it needs to dualize exclusive section for formal education and for support of students engaging in college of further education and provide them with specialized education and administration support service in operating a college that offers exclusive lifelong education department only for adult.

4) Establishing the quality management system of college of further education

The quality management of college of further education needs to be fulfilled systematically. It needs to unify relevant sections of college of further education and seek development of the system and build and operate an exclusive support center so that college of further education may stabilize and develop institutionally in the long term. It needs to develop and operate a curriculum to link an industry field directly, considering distinct characteristics of college of further education for incumbent workers. And there needs to be a routine assessment of an college operating for quality assurance of college of further education.

5) Reinforcing promotion and support for college of further education

Promotion and support of further education need to be reinforced. To achieve this it needs to promote through the exclusive web site, the various media such as terrestrial broadcast college of further education and seek for measures to improve incumbent workers' and enterprises' recognition of college of further education.

Utility Evaluation of Private Certifications I : Establishing Utility Evaluation System

Sang Ho Kim, Il-Gyu Kang, Jeong Yoon Cho, Su Jin Kim

Qualification is a double-sided matter as it develops proper function and adverse function by creation and utilization. Especially the private qualification has weak credibility of the issuing authority, therefore has big adverse effect such as information noise and such as it is hard to manage the quality. As individual ability is deemed important the necessity for utility evaluation of private certifications are expanding as the private qualification test is quantitatively expanding also. Therefore, this study would like to suggest policy method for increase quality of private certifications through establishing the utility evaluation system of private certifications based on this background.

This study is scheduled for 3 years research with 「Utility Evaluation of private certifications」 as its title. This study is to contribute the realization of the society that is based on ability pursuit by quality basic method through utility evaluation of private certifications. In the short-term this study is to initiatively confront on the increase of information entropy by explosion of private certifications. Also, it would like to improve the distortion of market function occurred by the asymmetry of information. In the mid to long term, this study looks for the policy-system change direction concerning customer protection and private qualification evaluation system through increasing utility of private certifications.

1st year research of this study was to establish theological and methodical basis to evaluate the utility of private qualifications. It was implemented ultimately to establish adequate evaluation system for the private certifications. Extensive work such as analysis of private qualifications characteristics, overseas case research, survey research, delphi research and such was implemented to achieve its purpose. As a result, the utility evaluation system(evaluation subject,

evaluation standard, evaluation indicator, evaluation method and etc) was established. Moreover, 2nd, 3rd year research direction will be presented.

Totally, the utility evaluation of private certifications needs to increase the quality of the qualification by evaluating mainly on economic utility and non-economic utility than the core competence of the organization or infrastructure. Qualitative evaluation of the core competence of organization and infrastructure and etc., is related to the authorization and re-authorization, therefore there is the need to avoid redundancy in the utility evaluation subject.

The derived utility evaluation system of private certifications has the need to consider method to reduce reflection or omit evaluation in factors that have low possibility in realization, high redundancy in clarity, importance and authorization when actually applying in the future.

Moreover, the study suggested policy recommendations to overcome the limits given that the related infrastructure is not adequate to implement the utility evaluation of private certifications.

Firstly, the strengthening of connectivity of utility evaluation of private certifications and accredited private certification system. Secondly, need to establish utility evaluation system using web. Thirdly, early finding of excellent private certifications based on utility evaluation. Fourthly, strengthening connectivity with NCS in case of certifications and course finishing qualification type. Fifthly, strengthening of legal regulations to manage utility and quality of private certifications.

Cooperation for Kazakhstan Human Resource Development

Gyu-Hee Hwang, Jeong-Yoon Cho, Dong-Wook Lee

This study looks at the state of development of National Qualification Framework (NQF) and National competence standards (NCS) of Kazakhstan in overall level, specifically analysed the issues related to Vehicle Maintenance and Accounting. Initially, what is identified as the basic problems in NQF and NCS are as followings: first, analysis of labour market and needs of company/industry is very limited; secondly, most of job analysis and competence analysis confronts to lack of participation of field experts and rely too much on foreign resources.

Regarding these problems, cooperation with the Republic of Korea would be very helpful to Kazakhstan, even though Republic of Korea is also still at the early stage of application of NQF and NCS for the national level human resource development. Trial and errors during the development and operation of NQF/NCS, and the related accumulated efforts of Korea would contribute to enhancement of operational and developmental efficiency and, at the same time reducing the trial and error that Kazakhstan should go through. Through the cooperation with Kazakhstan, Korea would also increase the knowledge and experience and spill over them to others.

The research supported by Kazakhstan identifies that overall, related policy and environment, etc, are put into consideration and enhancing the development ability of NCS, NQF in order to raise the responsiveness to industry demand is required.

While the gap between government officials and experts and difference between ministries exist, there are concrete needs to promote the common interest of NCS and NQF. Taking into account the fact that lack of prior knowledge in NQF development, development method in NCS development

respectively was highly selected amongst professional groups, it seems necessary to improve the development skills in NQF and NCS development.

In vehicle maintenance and accounting sector, majority of responses similarly emphasize on the strong connection with field, utilizing teacher from industry. In accounting sector, institutional aspect such as reform of vocational training system and in vehicle maintenance sector enterprise connection are put on emphasis, respectively. From the cooperation between the government of the Korea and Kazakhstan, it is expected to share the experiences of Korea in development of NCS-based training programs, for which training program is requested from the Kazakhstan.

Proposed policies are as followings:

- A. It is necessary to strengthen the cooperation with Kazakhstan from the long-term strategical point of view.
 - Strategic location of Central Asia: a resource power, strategic value as a major transportation point is very high
 - A leading country of CIS: the position of Kazakhstan as a leader of the former Soviet Union would become a bridgehead for expansion to the former Soviet Union, including the Central Asia, as well as Eastern Europe.
 - Considering the fact that BRICS (Brazil, Russia, India, China and South Africa) have raised in recent, it is highly likely for Kazakhstan to be added with the rapid economic development speed and its resource power.
 - Expecting that mutual exchanges of personnel with Kazakhstan is promoted, it is highly needed to preoccupy chances.
 - Additionally, it would be the advanced base for the personnel exchange with CIS and Central Asia nations

- B. In particular, it is required to expand investment in cooperation for development of human resource.
 - In spite of active support from German and the World Bank, development of human resources on the basis of NCS has not well rooted. In this regard, human resource development of the Republic of Korea could be the alternative for Kazakhstan, which is maintained by the strong interest from Kazakhstan and overall conditions.

- Invitation for training should be positively considered for the cooperation of NCS-based human resource development
- Based on the advance investment of the government, Republic of Korea, once the visible achievement of Kazakhstan becomes clear, it is sure that Kazakhstan would actively participate in and spread the cooperation.
- NCS-based cooperation for the human resource development would be the catalyst for the expansion of cooperation between Korea and Kazakhstan.

Study on National Skills Outlook

Jung-Seung Yang, Ga-Woon Ban, Ki-Rak Ryu, Bom-I Kim, Soon-Won Kwon

The purpose of the Research on National Skills Projection Survey is to develop an information frame through the development of human resource and effective use in terms of skills and to develop a frame for skills projection based on the information frame. In the past, continuous results came from a frame called development of skills information, through surveying employers; however, after the research ended in the tenth year, the direction regarding what type of results to produce became ambiguous. This year, the research will focus on reexamine the validity of the skill demand survey from the employers, develop information regarding the skill demand, and provide ways to improve in future researches. Another important purpose of the research is to set a direction on what information should be produced as the result of the research on National Skills Projection. This will be initiated through the use of employers' survey and initial data. In order to achieve this purpose, human resource supply and demand projection system was reviewed and the environment which skills projection system will be used on was examined. Also, case studies on human resource demand projection was reviewed.

First, reexamine topics on skills and skill mismatch through literature review. Through this process, reinspect the direction for skills projection information production,

Second, improve the existing employers' survey, conduct a survey on manufacturing companies, and present the survey result. Also, assuming the Korean companies environmental characteristics will affect skills demand, conduct additional research regarding the relationship of social responsibility and main contract and subcontract of the company, and present the result.

Third, set a future direction for skills projection survey. For this purpose, examine the possibility of improving the human resource supply and demand projection using skills projection information, and examine the Korean

environment for skills projection.

Lastly, summarize the research result and propose a policy for future skills projection.

The range of skill can be categorized as skills related to task or skills unrelated to task based on OECD's core competence, skills related to task can be divided into cognitive skill, functional or technical skill, and cooperative skill. First, cognitive skill is learned through general work related training. It is the ability to use theory, logic (or concept), and knowledge. Second, functional skill is a technical skill required by workers to perform a specific task. Third, cooperative skill is the ability to work with other people.

Skills unrelated to task are important competence that does not directly relate to the task itself. Skills unrelated to task are divided into comprehensive and social skill. Comprehensive skill includes competencies for social activities, but does not have a direct relation to task itself. Social skill is skill related to behavior and acts related to employment relationship, but does not have a direct relation to task itself.

This research categorized the types of skills into cognitive[decoding, IT, foreign language, calculation(mathematics), problem solving, etc.], job performance (administrative, customer management, technical or implement, management etc.), and cooperative(communication, relationship, team work, ethics and social activities etc.).

Skill mismatch is a type of mismatch that frequently occurs in labor market. It occurs when the level of skill or ability of the employee does not match the level of skill or ability required by the company. Mismatch occurs when the training is received through training institution, through company's human development system that has limited investment from the company, or if the training institution is centered around supplier.

By examining the cause of skill mismatch, it occurs through information asymmetry of the general employer and employee, defective information about the internal labor market, personal differences, and expense. These mismatches can be generalized into vertical mismatch and horizontal mismatch. Vertical mismatch refers to excessive education. This is when the employee possess a higher education level than the job actually requires. Horizontal mismatch does not refer to the difference in skill level. It refers to the difference of set of skill required by the job and the type of skill the employee possesses.

Generally, problems related to skills occur due to skill shortage and the skill gap. Skill shortage refers to the lack of human resources with the skills in the labor market. Meaning, there is not enough people to work in the job.

On the other hand, skill gap occurs when the knowledge and ability level of a person does not meet the level the company requires. The data showed the problem of skill gap has a higher chance of occurring in skilled occupation, where training is necessary.

According to the 2011 OECD employment statistics, on average, 33.5% of the respondents saw themselves highly skilled, 13.3% low skilled, and the relationship between excess education and high skill was statistically not significant with a correlation coefficient of .017. Taking into account that quality management in Korean college education is relaxed, education cannot become the determinant of the level of skill, and excess education and low skilled cannot co-exist.

There is no study yet to verify the correlation between skill shortage and skill gap. However, there was a correlation between skill gap and low skilled. On the other hand, skill degeneration is closer to a process than a status. Especially in the production process, when a possessed skill is no longer useful, it can lead to skill degeneration and resulting in low skilled.

With a rapid increase of graduates with specific licence, skill surplus can occur. This will make employment harder for people with specific licences and downgrade the value of the specific skill. With the addition of people who have low qualifications also being downgraded and unemployed, crowding out and bumping out could occur.

When examining the mismatch of an employee and a company, highly skilled, skill shortage, and skill gap could occur at the same time. This means, highly skilled people may not have the necessary skills that the company requires.

The the source of relation between economic change and skill mismatch is training. This is because the expense spent on training cost is determined by the economic situation. In the period of economic recovery, the supply with efficient skill through training is deficient. For this reason, skill shortage leads to high under education and low skilled. In contrast, in the period of economic stagnation, those newly entering the labor market have difficulty finding jobs that fit their skill and education level.

The participants of the 2015 「National Skill Projection Survey」 was full-time workers of manufacturing companies with more than 30 employees. The

survey was conducted on 20,568 companies that met the requirements.

First, human resource shortage was replaced with the concept of vacancy. The value was then calculated, skill shortage was drawn. After combining the results in company level, the number of companies experiencing difficulty in recruitment due to skill shortage vacancy(SSV) was a total of 1,165. In terms of ratio, it was 5.7% of the surveyed manufacturing companies, 26.9% of the manufacturing companies with shortage of employees, 49.2% of the manufacturing companies with recruitment difficulty. When looking at it in terms of the type of business, '11.beverage manufacturing' had the highest vacancy to skill shortage ratio at 84.9%.

When examining the skill shortage vacancy in terms of company size, HtFV to SSV ratio of the in large companies with more than 300 employees was the highest at 74.4%. But, when SSV was examined in a real vacancy standard, the result was as follows. Small and medium sized companies had the most difficulty regarding vacancy. For large companies with more than 300 employees, many large companies also experienced skill shortage problem, but human resource shortage is not a critical problem compared to that of small and medium sized companies. Also, due to the quality of working conditions as well as the high wage, large companies are not experiencing human resource shortage that small and medium sized companies are experiencing. This means most human resources are clustered in large companies.

Lastly, when examining the number of companies having difficulty with skill shortage vacancy in terms of the type of industry, the highest ratios were 'sales' at 78.3%, 'management' at 75.9%, 'expert' at 72.4%. However, in terms of absolute value standard, companies reporting SSV of 'functional related work' was the highest at 414 cases.

Next, skill gap drawn from the employers' responses were examined. The results was divided into industry and type of occupation. Skill mismatch could be determined in terms of the industry and the type of occupation. 3,190 or 15.5% of the companies had skill gap. In terms of industry, the highest ratios were '12.cigarette manufacturing' at 75.0%, '31.other transportation equipment manufacturing' at 24.6%, '24. primary metal manufacturing' at 20.0%. When examined in terms of employee size, companies with 100-199 employees were at 17.6%, companies with 300 or more employees were at 15.4%. The ratios were fairly high. In terms of the company size, there was not a significant difference of skill gap between small to medium sized companies and large

companies. However, there were more skill gap within the small to medium sized companies than large companies. The result shows that skill gap is clustered in labor centered small and medium sized companies, effecting in low production rate.

When examining the type of occupation with skill gaps, the difficulty level to overcome the skill gap was mostly not hard or a little hard. Most occupations stated 'a little hard.' Skill gap was especially hard to overcome in 'service work' and 'management' type of occupation.

Lastly, the level of competence degrade of workers who are currently working at their current job after one year of leave of absence was examined in order to examine the companies' skill degeneration level. In terms of the type of industry, '18.printing and reproduction of recorded media' had the highest level of skill degeneration, while '12.cigarette manufacturing' had the lowest level of skill degeneration. In terms of company size, small and medium sized companies with less than 300 employees had a higher level of skill degeneration compared to large companies with more than 300 employees. Lastly, in terms of type of occupation, 'management' had the lowest skill degeneration rate while 'functional related work' had the highest skill degeneration. As a result, it can be inferred that small sized companies and low skilled works had a highest ratio of skill degeneration.

Additional research was conducted to examine the variables related the relationship between subcontractors and partners. First, the point value that responded to examine the importance of the cooperation of subcontractors and partners were very high at 4 points. On the other hand, the score for subcontractors using competition among the partners was less than 4 points. This means that both subcontractors and partners have high regard on mutual trust. This may be due to the score regarding trust of the performance ability and intension of stable contract being high at 4 points. In the survey regarding the cooperation of subcontractors and partners, partner's ability improvement support was the highest while the members's skill improvement support was lower. This means that member's and partners support regarding skill needs to improve. Also, partner's facilities improvement support score were low. In the survey regarding fair trade, the overall score was not high at an average of 3 points. Especially, the score regarding lowering the partners' delivery fee was low. For the result of trade relation, partners and subcontractors was the most positive on production increase, and profit improvement and growth expansion

followed with wage increase which was fairly low. Lastly, when examining the survey regarding relationship, partners' ability was regarded as important.

Korean Employment Information Service mid to long term workforce supply and demand projection is organized as human resource supply, human resource demand, new employee supply and demand difference projection. But whenever a new human resource supply and demand model is presented, the model undergoes revision. The biggest difference between the last model and the new model is KESIM independent micro simulation model was used for population projection.

Korean Research Institute for Vocational Education and Training is also maintaining a independent human resource supply and demand projection model. The basic model is similar, but the specific projection method is different compared to Korean Employment Information Service's mid to long term human resource supply and demand projection model.

When examining foreign human resource supply and demand model, the relationship between the blocks that make up the model as well as the technical methods are different; however, the basis of demand drawn from macroeconomic projection and the supply analysis drawn from the projection of labor workforce by grade level is similar in the big picture. Skills can also be distinguished when compared in details, but the similarity is that education level is a large portion of skill level determinant.

On the other hand, Cedefop and England's skill supply projection cases were examined to find other possible skill supply projection.

First, Cedefop includes a statistical data about the necessary skill level required by specific occupation in Europe, and a comparison profile called Occupational Skill Profile(OSP) to compare the occupation. OSP includes education and qualification level, field of education and training, knowledge, skills, competence, occupation interest, and work value. The 7 sections are used as an assessment tool of individual occupation.

United Kingdom Commission for Employment and Skills(UKCES) carries out an important work for skill demand projection. UKCES carries out Employer Skills Survey(ESS), Employers Perspectives Survey(EPS), and working future(WF).

First off, ESS surveys skill shortage vacancy and skill gap. It also surveys background related to skill shortage and surveys on what administrative effect skill shortage has.

EPS surveys what the business owners are doing in terms of participation and interaction with training providers. The survey also surveys business owner's perspective and projection on recruitment, work experience, human resource development, and apprenticeship.

ESS and EPS focuses on present or near future problems regarding skills. On the other hand, WF focuses on a far future problems regarding skills. WF predicts the skill projections of occupation and qualification level.

Currently, Bank of Korea Dynamic Projection Model(BOKDPM), Bank of Korea Global Projection Model(BOKGPM), New Bank of Korea Dynamic Stochastic General Equilibrium Model(NEW-BOKDSGE), Bank of Korea 12(BOK12), KDI-DSGE of Korea Development Institute(KDI), KIET-DIMM12 of Korea Institute for Industrial Economics and Trade(KIET) are the models used in Korea to project the macroeconomic.

Except BOK12 and KIET-DIMM12, the models are based on DSGE, so the macroeconomic projections model is reflected on DSGE. But most foreign countries use Keynesian macroeconomic model as the base of skill projection model, so KOB and KDI model will not easily be combined with the models used in foreign countries.

Data useful for skill projection are Economically Active Population Survey, Population and Housing Census, regional employment survey, population projections from Statistics Korea; Establishments Labour Force Survey, Occupation Labour Force Survey, employment type employment survey, HRD-Net from Ministry of Employment and Labor. National Skill Projection Survey, Regional Training Demand Survey, Job index of Korea are provided by Korea Research Institution for Vocational Education and Training(KRIVET). In the future when NQF is developed, the data will be useful in determining skill level by industry and by occupation. On the other hand, there is a adult competence survey call PIAAC which is surveyed every decade. Other data includes Employment Insurance Data Base, Education Statistics, College graduates career path survey among others.

According to the literature review on skills, skills can be calculated through the use of occupation dictionary and through determining personal characteristics in the wage function, which can be used to explain skills. Using PIAAC or surveying are another options.

After examining Korea's current human resource supply and demand projection model, foreign human resource supply and demand projection model, skill

demand projection case studies, and environment for skill projection, future skill projection model should be established in the following manner.

First, skill supply and demand projection has to be linked with macroeconomic model. For this purpose, researches much create a cooperative network to combine macroeconomic projection and skill supply and demand projection.

Second, skills information can be predicted through human resource projection model, but is recommended within the human resource supply and demand projection project. According to foreign projection models, skills supply and demand project is just an improved version of human supply and demand model, thus it is recommended to be used within the human resource supply and demand projection frame.

Third, skills demand index, by using survey on employers, must be developed. By developing related information through skill demand survey, the purpose of the research should be to provide projections regarding skill demand to employers and new employees in the labor market.

Fourth, National Skills Projection Survey as well as the employers' survey must continuously be improvised.

Fifth, skill demand index must be developed by using NQF related data. Through this, skill level and information regarding changes by industry and occupation can be developed.

Sixth, conduct qualitative research on skill demand on large companies to supplement quantitative projection data.

Seventh, reflect on changes of recent theory-based macroeconomic model to explore a new skill supply and demand model. Develop unemployment and vacancy rate estimation model based on search- matching model.

The Study of Korean Occupational Index(2015)

Sang-Geun Han, Hea-Jung Chang, Joohee Chang, Hyun-Jin Jang, Soorin Yoon

Detailed objectives of this study are as follows:

First, calculate occupational index for major occupations in Korea, the USA, Germany, Japan, and so forth.

Second, analyze issues about skill, balance between work and family, short-term labor, qualification and training based on major countries' workforce investigation result.

Third, analyze not only economic conditions in Korea, the USA, Germany, Japan, and so on, but also culture and system related with occupation.

Fourth, suggest an alternative for improving workforce professionalism and labor condition based on major countries' occupational index investigation result.

Main methods of this study are literature review, survey, conducting a seminar, and so forth. Survey is the core method of this study. We performed a survey to calculate the occupational index for major workforces in Korea, the USA, Germany, and Japan. Survey method is web-based and goal of respondents is 4,000 people in four countries. Investigation period is from 19th of May, 2015 to 8th of July, 2015.

To review overall basic occupational index value in each country's 20 jobs, lawyer, medical specialist, elementary school teacher, education manager, and accountant were in the top five in case of Korea. In the USA, electrical engineer ranked third and elementary school teacher dropped out of the top five. In Japan, reporter ranked fifth and accountant dropped out of the top five. Germany presented a great contrast to the other three countries. In Germany, medical specialist ranked at the top. Next came electrical engineer, web developer, education manager, insurance salesperson and so on.

To sum it all up, Korea and Japan's index were lower than Germany and the USA especially employment stability, development possibility, job professionalism, and so forth.

To review overall basic occupational index value in each country's 20 jobs after ten year's prospect, education manager was the top prospect of future. Next came elementary school teacher, electrical engineer and nurse. In the USA, accountant ranked second, lawyer ranked third, carpenter ranked fifth and elementary school teacher, nurse, fashion designer dropped out of the top five. In Germany, web developer ranked first, medical specialist ranked third, accountant ranked fourth and education manager, elementary school teacher, electrical engineer dropped out of the top five. In Japan, medical specialist was the top prospect of future. Next came elementary school teacher and electrical engineer. More than three countries amongst observed ranked electrical engineer as in the top five after ten year's prospect.

Function Expansion Plan for Colleges as Higher Vocational Education Institutions

Il-Gue Kang, Hyoung-Han Yoon, Hee-Kyung Cho

□ Research Purpose

Society constantly changes and evolves. Social changes influence policies, and these policies are inherited and implemented through the process of maintaining and amending the direction and contents of existing policies. Again, these policy changes can either positively or negatively influence various social groups, organizations and even our daily life.

In this context, the Korean higher vocational education field is no exception. Since the introduction of the modern Western education model, Korean higher vocational education has undergone constant changes and development. These changes and development are believed to have greatly contributed to industrial and economic development of and social stability in Korea. However, in response to social changes, both domestic and foreign countries, as well as both academic and industrial fields, have also faced changes in higher vocational education environment. These problems include the decrease of birth rates, changes in industrial technology level and demand, and globalization. Therefore, a change in roles and functions of colleges, which are in charge of higher vocational education, is an urgent issue today.

The need for a change of social apprehension and a change of the existing colleges and the need to response to a new environment will persist. Accordingly, new school management strategies, including preparation of political countermeasures and plans of the government and relevant organizations, need to be established. Therefore, the expansion of functions of colleges as higher vocational education institutions can be considered as the establishment and reinforcement of college identity through the roles of colleges in various environmental changes and the government's political support for those changes.

This study aims to investigate the changes in roles of colleges as higher vocational education institutions and in supportive policies and functions in response to social changes. Our second goal is to find ways to expand college functions as a new strategy to cope with recently emerging demands and needs.

□ **Methods and Scope**

First, a literature overview of previous work in the field was conducted. We analyzed the existing research literature and relevant statistical data on the actual state of changes in academic and non-academic environment and status of colleges. We also examined the literature related to higher vocational education institutions. Based on the existing research outcomes, we also analyzed the cases of higher vocational education institutions at the college level in the United States and Japan.

Second, an expert advisory meeting and a focus group interview (FGI) were conducted. Through the advisory meeting with experts in the field of colleges, the opinions on the current state of colleges were collected and an improvement plan for colleges was elaborated. Furthermore, through the FGI, the actual state and future prospect of colleges were examined.

Third, the actual state of colleges was investigated and analyzed. The actual condition survey was conducted with experts in the field of colleges. In the next step, based on the survey, political improvement plans and policies were suggested.

The study was conducted with colleges, which are higher vocational education institutions, without distinction of location. The macroscopic expansion of functions of colleges, rather than all the entirety of college-related data, was investigated in the qualitative and territorial aspects. Meanwhile, the period of the research was limited to the Park Geun-hye administration policy period, and the foreign cases were limited to the researches from the United States and Japan.

Given our specific research scope, the present study has several limitations. First, as our respondents were mostly college professors and relevant experts, the interview contents had the limitation that the position of colleges was greatly reflected. Second, there is a limitation to various case analyses due to the college scale, the non-separation of colleges in capital areas from those in local areas, and the limited number of foreign cases.

□ Research Contents

First, the analysis and implications of relevant previous research were suggested. In fact, various college-related themes and development plans have been investigated until now and have greatly contributed to the development of colleges by being used for policies. This study collected and classified the domestic research outcomes related to the functions of colleges as higher vocational education institutions and selected key words from them to classify and analyze. Accordingly, the key achievements and implications for college function expansion were drawn. In particular, the future-oriented suggestions, including college function expansion and development plans, were extracted and a survey on the feasibility of these suggestions was conducted.

Second, the environment and status changes of colleges as higher vocational education institutions were analyzed. As mentioned in the section on the research purpose, both domestic and foreign, as well as academic and non-academic changes regarding colleges frequently occurred in recent years. Thus, changes in college-related laws and policies were investigated and the changes in college status and implications for function expansion were examined. In particular, we confirmed the current problems of colleges, deduced the implications, and assessed college problems, such as the shortage of college function and learning resources.

Third, the actual state survey and analysis on colleges were conducted. The college-related statistics and actual conditions were investigated. The opinions of college experts and authorities were collected. In particular, the actual condition analysis and an expert focus interview were performed for the preparation of policy plans.

Fourth, we analyzed the function expansion cases of foreign higher vocational education institutions. In order to deduct implications for function expansion, we identified excellent cases by visiting community colleges in the United States and analyzed the relevant college cases in Japan.

Fifth, we sought ways to expand college functions as higher vocational education institutions. The main contents include basic premises and directions of function expansion, elements and models of expansion, function expansion strategies, and main tasks and methods of expansion. Finally, based on the above research outcomes, the political proposal for college function expansion was formulated and presented.

□ Conclusion and Proposals

Within the context of social changes, Korean colleges have changed and served the role of higher vocational education institutions. Colleges in Korea have faced various challenges initiated by constant environmental changes. Even now, there are numerous periodic and environmental demands to improve college identity and functions and to expand functions of colleges.

However, even though extensive research has been previously conducted on the problems, tasks, and plans of colleges, the existing practices and performances are insufficient due to various reasons. Some point out that there are still negative perceptions of Korean colleges in the educational background-based society, including concerns about poor educational conditions and high tuition fee dependency ratio.

In these circumstances, the demand of constant education of highly skilled labor force and the shortage of this labor force have intensified. Alongside with the movement of advanced countries, which establish graduate schools of applied sciences in vocational education institutions, Korean colleges should also enhance international mobility and competitiveness of domestic higher vocational education.

Therefore, considering the high demand of highly-skilled workers due to the industrial advancement and convergence, departments and majors need to qualitatively and quantitatively expand and reinforce various functions through the diversification of the years required for graduation, ahead of industrial demand-customized manpower training.

The various discussion results in this study confirmed that the expansion of functions of colleges as higher vocational education institutions is a very complicated process. Nevertheless, the following proposals are expected to contribute to the expansion of functions of colleges and the reinforcement of their identity and status.

First, the purpose of colleges should be reestablished. As mentioned above, relevant law needs to be amended and further developed.

Second, the macroscopic function changes of colleges should be initiated. For example, the following directions can be set: ① training of professional labor force; ② constant education and re-education of adult learners and incumbents; ③ public goods and social security network supporting the admission and employment of vulnerable social groups; ④ contribution and

voluntary activities for local society; and ⑤ mitigation of the educational background-based society atmosphere and prevention of over-education.

Third, the macroscopic functions of colleges should be expanded. In terms of the qualitative reinforcement of colleges, the following methods can be considered: ① the government's financial support to colleges (national subsidy, financial support policy equivalent to general universities, etc.); ② the establishment of a developed education system where the government takes the responsibility of vocational education, including free education; ③ the implementation of various curricula and vocational education (the subdivision of curricula and departments and the diversification of the years required for graduation); ④ the reorganization of the overall degree structure of higher education (academic degree curriculum, non-academic degree curriculum, graduate curriculum of colleges, degrees in vocational and general education, etc.); ⑤ the establishment of evaluation standards for the improvement of educational quality, including NCS and NQF; ⑥ the securement of competitive faculty (flexible faculty management, practice reeducation support for faculty in response to periodic and technologic changes, colleges that prepare methods to autonomously produce faculty members; and ⑦ the improvement of the perception of college staff (authorities, faculty). In terms of the quantitative reinforcement of colleges, the following methods can be considered: ① a close analysis on the current functions of colleges (searching methods to improve efficiency and activation of current functions); ② the improvement of college structures from the mid- and long-term perspective (for the purpose of making the colleges that face difficulties due to domestic and foreign environmental changes fulfill their essential purpose and carry out their social functions); ③ the recovery of college status as vocational education-centered colleges (diversification of the years required for graduation from colleges, restrictive measures on the duplicated departments in four-year universities with colleges); and ④ the establishment of a college education quality management system (establishment of an evaluation index depending on college characteristics).

Fourth, in addition to the above proposals, we also propose the following measures: to enhance the status of colleges as higher vocational education-centered institutions, to expand the college role in lifelong and vocational education, to foster colleges through educational tuning, to improve vocational education

strategies of colleges, to develop the functions of colleges based on the SHRD academic and industrial cooperation, and to improve relevant functions of colleges.

Perspectives on General Subjects in the Vocational High Schools

Eon Lim, Hyung Han Yun, Sujung Lee, Hyeryung Jung

Emphasis on work-based learning has become an international trend as a policy measure to reduce youth unemployment and skill mismatch by strengthening the linkage between schools and labor market. In Korea, strong policy have been implemented to increase employment rate of graduates of vocational high schools who used to pursue higher education. As an outcome of a series of policies in recent years, peoples' perspectives have been changed, considering learning specific skills are the most important in vocational high schools under the social slogan of "building the meritocratic society", the meaning of which is rather obscure. Reflecting these trends, general subjects have been gradually neglected in vocational high schools in Korea. This study started based on a sense of crisis that while a society is over-emphasizing specific skills, there might be a danger of overlooking arguments that specific skills oriented education can not ensure the later period of workers' lives than does the concept-based education due to lack of adaptability to the changing society.

The aims of this study is to contemplate the purpose of learning general subjects in vocational high schools and explore the ways to improve the quality of vocational high school education with regard to general subjects, in a way that it can not only contribute the need of labor market but also for the good of student's lifelong competitiveness and human resources development at the national level. Various approaches have been deployed in this study such as literatures review, interviews with teachers and students, and quantitative analysis based on survey with teachers and student.

The results provided the following characteristics as the current status of general education in vocational high schools. First, despite of considerable differences in educational context between general high schools and vocational

high schools, officially the curriculum of general subjects of these two types of schools are the same. There is no guideline or system to help teachers of general subjects in vocational high schools to deal with less motivated students with less time for teaching than general high schools. Secondly, many teachers think that the number of courses for general subjects in vocational high schools need to be reduced and 21.8% of students responded that there is no need to learn general subjects. Third, more than half of students are aware of lack of basic ability for learning. Fourth, many teachers of general subjects are relatively alienated in the process curriculum planning and showed the tendency of less actively participating in professional education and training.

As the final conclusion of this study, two scenarios were provided which shows contradictory characteristics. In the Scenario 1, based on the perspectives of Brunner(1960), Hirst(1965), Gardner(2006) and Young(2009), general subject would be more emphasized than now with changes in teaching method in order for students to be better equipped for the rapidly changing labor market as well as enhance their wisdom for life and citizenship. On the other hand, in the Scenario 2, the objects of general subjects will be limited to facilitating development of basic competencies required in the work places. In case of choosing the Scenario 1 as a policy direction, changes in curriculum, teacher placement and training, and quality control of teaching in order to assure students of vocational high school have chances to learn, at their piques of cognitive capacity, the “powerful knowledge” with “disciplinary minds” which will help them in the lifelong learning society.

Addressing the limitation of the study, further suggestions of researches were made.

Future Prospects and Responding Policy Task for Social Policy

Ho Young Oh, Kirak Ryu, Jung Seung Yang, Cheonsik Woo, Jaewoo Ryoo

A. Introduction

From the perspective of social policy, the importance of education, labor, welfare, culture and environment has been highlighted along with economic growth, increase in income, technology progress, rapid advance in knowledge information, and globalization. As a society transformed into knowledge-based economy, the knowledge life cycle has shortened; as a result, the need for the continuous capacity building of individuals and organization is greater. Consequently, the demand for adult education has increased, and the adult education becomes basis of welfare and job security. Education and job security greatly affect individual quality of life. When the policy objectives for education and labor are separately established, the mismatch between labor supply of students and demand for labor is inevitable. This could not only limit the expansion of education demand, but also negatively affect the expansion of recruitment and the improvement of job quality.

Economic growth is considered as a panacea at the stage of economic development. However, when income reaches a certain level, the social problems which can not be solved by economic growth are raised. The typical examples are recent phenomenon of jobless growth, 'new normal' depicting a prolong stagnated growth, and increasing demand for welfare and environment. These challenges fall under the scope of social policy, which cannot be solved only with economic policy. In 2014, Korean government appointed the minister of education as deputy prime minister for social affairs and established governance framework to coordinate and adjust social policies which are related with various ministries including Ministry of Employment and Labor, Ministry of Education, Ministry of Land, Infrastructure and Transport, Ministry of Health and Welfare, Ministry of Gender Equality and Family, Ministry of Environment, Ministry of Culture, Sports and Tourism, Ministry of Agriculture Food and

Rural Affairs, and lastly Ministry of Science, ICT and Future Planning. This is an attempt not only to overcome inefficiency created by the redundancy between ministries and fragmented policy implementation, but also to meet increasing demand for social policy.

Several challenges that society faces such as aging, low birth rate, high unemployment, inequality, and various social conflict, can be solved with comprehensive and integrated approach combining all capacity of relative ministries. For example, several ministries are involved to deal with the case of low fertility rate. Factor that hamper the time of marriage is youth unemployment crisis, which is a concern of Ministry of Employment and Labor, and employment is related with education, which is governed by Ministry of Education. Moreover, Ministry of Land, Infrastructure and Transport are responsible for housing stabilization for newlyweds. Ministry of Health and Welfare are concerned with childbirth and rearing, and Ministry of Gender Equality and Family is focus on life-work balance for woman. The essence of social policy shows high interconnection and complexity, which should be approached with multidimensional perspectives. Thus, new governance framework that aims to enhance synergy between policies through coordination is required to implement the comprehensive policy and predict future trends.

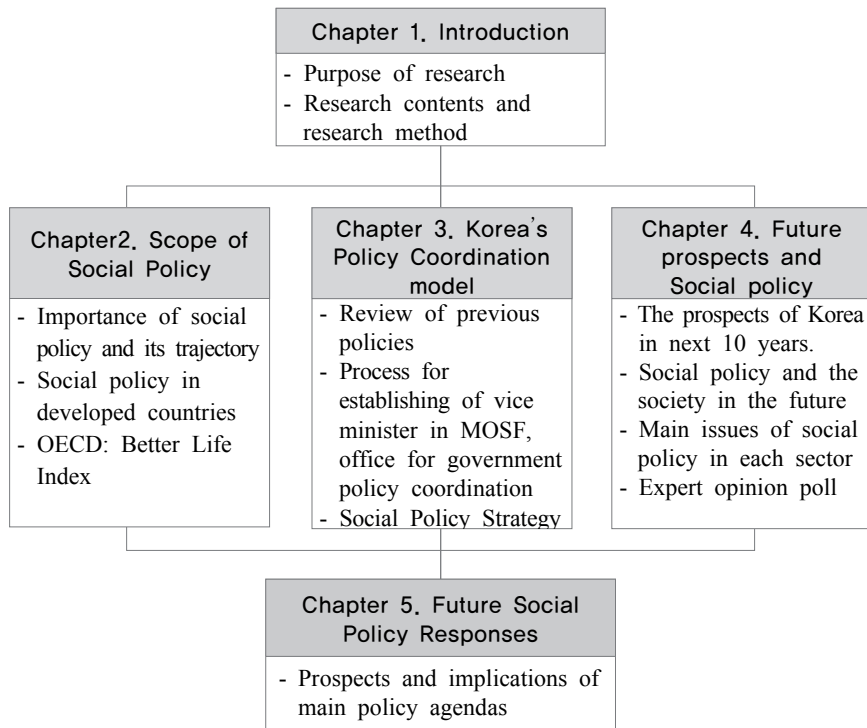
Governance framework can be established based on the identification of concept and scope of social policy. The function of social policy which scatters in different ministries should be reorganized from the integrated perspective and synergy among various social policies can be maximized through coordination. However, the discussion regarding scope of social policy and circumstance changes in social policy is insufficient. It is necessary to build a consensus for the coordination and the cooperation to encourage interconnection of social policies, and to provide a logical stand for the governance framework. Thus, concept and scope of social policy should be defined corresponding to Korean context. Also social policy agenda in response to future trends should be identified to build logical ground and seek for the development of new governance framework.

The purpose of this research is to identify main scopes and content of social policy and to develop strategy of social policy based on expected future trends. The research will explore collective policy needs in various sectors including education, labor, welfare, culture and environment and provide responding strategy based on future trends in these sectors. In addition, the research will

investigate current trends in social policy and provide a logical framework for strategic plan of social policy for the future.

B. Contents of Research

Firstly, the concept and the scope of social policy will be defined based on case studies in different countries. Secondly, the important issues of the social policy will be selected based on the expected changes in the future. Thirdly, implementing deputy prime minister for social affairs provides insights for the coordination between ministries and general management. Based on the lessons from the National Human Resource Development(NHRD) Policy during Noh's administration, the strategy for effective implementation of the deputy prime minister for social affairs will be drawn. Finally, main issues in social policy in each sector will be identified, and strategy for social policy will be suggested. Through analysis of social policy issues which requires coordinated response among the ministries, current state and limitation of social policy will be identified. The policy recommendation will be drawn based on finding of research, and the integrated social policy implementation measure will be discussed.



C. Future Social Issues and Policy Responses

Based on expert opinion poll, the important issues of the social policy were selected in four areas (Learning, Employment, Welfare, Quality of life) upon consideration of current importance, future importance, current priority, and future priority. To be specific, selected issues are construction of learnfare system and private education for Learning; solution of labor market segmentation, policy for employing migrant workers, and technological progress and employment for Employment; reform of pension and social insurance and expansion of child care services for Welfare; post-materialism and linking system for education, employment and welfare for Quality of life. Prospects and policy implication will be suggested for each issues. Private education and post-materialism was added given the urgency and importance of these issues even they were not listed in the opinion poll.

Prospect and implication for main policy agendas

Area	Policy agenda	Main policy responses for social issues
Learning	construction of learnfare system	<ul style="list-style-type: none"> - Reform for adult-friendly colleges - Construction for skill development system for aging and the higher value-added industry
	private education	<ul style="list-style-type: none"> - Building the Private Education Information System, (PEIS) - Government committee on private school issue needed
Employment	solution of labor market segmentation	<ul style="list-style-type: none"> - Analysis for change in structural change in labor demand - Overhaul of training and education system to meet the changing needs of society - eliminating discrimination between regular and irregular workers in terms of job protection
	policy for employing migrant workers	<ul style="list-style-type: none"> Encourage prospective skilled migrants to locate to Korea - Improvement of 'Employment Permit system' for efficiency - Deciding whether to allow the long-service low-wage foreign worker to stay in Korea needed - Linking policy for low-wage workers to strategic adjustment of Korea's industry structure - Improvement the associated laws - Social intergration policy for multi-cultural society

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Area	Policy agenda	Main policy responses for social issues
Employment	technological progress and employment	<ul style="list-style-type: none"> - Nurturing venture business and support for small and mid-sized enterprises (SMEs) - Support for start-up business and startup education in college - Promoting basic research for R&D in small and mid-sized enterprises
Welfare	reform of pension and social insurance	<ul style="list-style-type: none"> - Lowering the entry barriers to labor market for the young and inducing young people to join social insurance - Consolidation of old-age income security system for the elder generation
	expansion of child care services	<ul style="list-style-type: none"> - Adjusting child care services policies to a road Map for improved ECEC (Early Childhood Education and Care) - Various child care service should be effectively used
Quality of life	post-materialism	<ul style="list-style-type: none"> - Search for role of value and institution in linkage between employment and education and an academic background- oriented society upon consideration of post-materialism
	linking system for education, employment and welfare	<ul style="list-style-type: none"> - Institutional protection and government support for linking system for education, employment and welfare

New Policy Frame and Directions of Vocational Education, Training and Employment for Continuous Advances

Young Saing Kim

This research is designed to suggest necessary education and training, new employment framework and main tasks for Korea to accomplish sustainable development based on foresight in a future society.

First, the study reviews earlier studies regarding the future foresight and understood future trends, key drivers and uncertainty which have impacts on the education and training, and employment in the future. The STEEP (Society, Technology, Economy, Environment, Politics) analysis framework is laid out to carry out this study.

Second, the research focuses to analyze earlier studies, policies and NAVER news related to the education, training and employment in a time sequence. With the collection of data, the research shows the vocational education and training system (relationship between education, training and employment) and its main issues by using big data analysis. Furthermore, the study draws the future issues on the education, training and employment through the keyword matrix analysis.

Third, the research selects the crucial future trends, key drivers, and uncertainty in the education, training and employment sectors. Experts group meetings and Delphi study ran in parallel to create the foresight scenario based on the results. The survey contributes not only to draw the high feasible scenario with a desirable picture of our future but also to show the policy issues for the education, training and employment.

Fourth, the research suggests the new education, training, framework and policy issues for future employment based upon the analysis and survey results.

Results of this report can be summarized as follow.

First, four divers which underline main STEEP trends have been identified. ICT technology (AI, IOT, Big data, Virtual reality)innovation has most critical

impact on economy, education and training. It has more potential impact on future of work and life. Within 10 years it would not erode number of jobs because it could help create new jobs, but after 10 years that will seriously erode jobs. ICT technology will change nature of job and daily life soon and later. Low birth rate and ageing are ready bring huge impact on society and economy negatively if emigration regulation will not be altered. It is possible to have more active aged population who would lead consumption in service industry. Korea society will allow ethnic diversity and gender equality. Emerging China economy has great impacts on economy. China would be a black hole for technology startups because China could attract highly motivated entrepreneurs from Korea. Competition between Korean companies and Chinese companies has started from traditional industries to cutting edged technology industries. Social and economic polarization has been a critical policy issue because it deteriorates quality of life and mid and long term national competitiveness.

According to WEF (World Economic Forum) report on national competitiveness comparison, Korea was top 8th in 2008, but went down to 26th in 2015. Lack of Government policy consistency and transparency, low efficiency of conglomerates' management, low efficiency of industry ecosystem (large company centered industry structure), mismatch between education provision and industry needs, and poor quality of industrial cooperation are main causes of the national competitiveness sliding. Reform of education & training and job strategy is the most important measure to make a difference in national competitiveness. As the result of big data analysis, mismatch between job strategy and education system, national policy and public needs on job strategy have been identified. It is critical to address the mismatches.

The researcher has developed multiple forecast scenarios in 5, 10, 15 years, based on literature review, expert intensive discussion reports and expert panel survey. In 5 year scenario, mainstreaming start-ups is the core factor to differentiate two scenarios. In 10 years, China and cooperation with the North Korea are the key uncertainties. In 15 years, artificial intelligence and robotics, and environmental emergency are main factor because after 10 years, smart machines could replace human labour directly.

It is critical to prepare futures in order to make a better future. The report suggests new policy ideas. First category is on new idea and frame. 1. Increasing entrepreneurship and startup skills to make a breakthrough on employment uncertainty. Vocational education and training have to play pivotal role in this

regards. 2. Digitalization of traditional skills to increase middle skill jobs. 3. Empowering skilled workforce in social and industrial relations to enhance skill-based-society as bearer of skill capital. Second category is on TVET system. 1. Customized career development and TVET system suitable for stage of the life cycle, 2. Developing national qualification framework to assess different format of skills in variety. 3. Life-long TVET platform based on smart technology to meet new emerging different needs. Third category is on strategic targets and areas. 1. New TVET system for the reunification era, 2. HRD Strategy of Korea culture wave industry and emerging industry development. 3. HRD and Job strategy for gender mainstreaming. 4. TVET Policy on Cultural diversity and massive emigration, 5. Globalization of TVET system and ODA, 6. Safety and TVET: how to make safer society through TVET measures.

A Study on the Support for Core Competency of Korean Students in Collegiate Level

Youmi Son, Chang-Yong Song, Hyun-Jeong Lee

1. Introduction

K-CESA (Korea Collegiate Essential Skills Assessment) project aims to develop the standardized evaluation tool for assessment of the level of basic job skills, which students acquire from the college education. There are some skills to be regarded more important, and they are called as core competencies, specifically for the competency in the labor market. Core competency is the concept that has been highlighted in the field of higher education and Human Resource Development because of the generalization of higher education and the environmental shifts around the education and labor market. K-CESA has been developed, distributed, and examined from 2009 to 2014, and the purpose of this study is to critically examine the performances of K-CESA project and suggest some solutions for enhancement of the core competencies of Korean students in collegiate level.

2. Review of Literature

Discussion on the concept of core competency can be categorized as three approaches: competency development in the business, lifelong competency which was led by OECD, and basic job skills for general employees. Specifically, core competency needs to be emphasized in the shift to information society and the generalization of higher education.

K-CESA consists of six categories of core competency: Social Skill, Comprehensive Thinking, Communication, Self Management, Global Competency, and Resource, Information, and Technology Utilization. The questions for evaluation and online assessment system have been established, and the students started to participate to the assessment from 2010. K-CESA project is meaningful in the point of encouraging the similar studies and suggesting the implications

for the curriculum for college in Korea as the first standardized assessment tool for core competency.

3. Performance and Challenges for K-CESA

The number of colleges for K-CESA increased steadily from 37 colleges in 2010 to 176 colleges in 2014, and the number of students also increased from 24,326 in 2010 to 36,152 in 2014. According to the survey on the professional educator group and the working group for K-CESA and ACE project, it proves that K-CESA is a practical tool for assessing students' core competency, evaluating the performance of government funding programs, and examining the outcome of curriculum of each college.

Even if K-CESA shows several advantages, there are also some challenges based on the survey. Above all, the concept of core competency that can be accepted universally is not yet defined. Therefore, the validity and reliability of the questions, the stability and quality of the online system, plagiarism in the assessing process, and the attitude of participants are addressed as the limitations of K-CESA.

4. Case Study for K-CESA

According to the survey of K-CESA, colleges actively discuss the core competency, try to develop assessment tool of their own, and reform the curriculum based on the core competency. However, it should be paid attention that the government funding is the most powerful motivation for participating in the assessment of core competency. Defining and developing core competency can be one of the ambiguous tasks for each school, therefore, sharing best practices would be helpful for the schools to discuss core competency.

In this study, Dongguk University and Cheonbuk University are suggested as the best practices for developing core competency in collegiate level. Those two schools are characterized in establishing a specialized organization and manpower for core competency, defining core competencies based on their own ideal model of student, developing their own assessment tool, combining K-CESA for comparison, and reforming curriculums based on these comprehensive approaches. Specifically, sharing the process of resolving the challenges in the early stage of core competency development would be a best reference for other schools.

5. Implications

Based on the literature review and survey result, implications and suggestions for policy making is like as follows: 1) government funding needs to be connected with the practical development of curriculum based on the core competency, 2) K-CESA assessment tool should be improved in further, 3) Core competency and K-CESA needs to be aligned with NCS (National Competency Standards), 4) interdisciplinary approaches for K-CESA needs to be activated, 5) developing core competencies of the students in non- capital region should be encouraged, 6) core competency needs to be connected with the career development, and 7) counselling for core competency should be supported for establishing infrastructure of core competency development.

Competency-based Hiring in Korea: Current Status and Future Challenges

Joohee Chang, Huijung Chu, Wonsup Chang

The unemployment rate of people aged between 15 and 29 is at its highest level since 2000. Job competition is as high as it can be among those who enter the labor market. Therefore, fair competition and equality of opportunity cannot be more important. Korean society has placed more emphasis on educational background, especially which college the person graduated, when it evaluates a person's qualifications. Also Korean companies have focused on an applicant's educational background rather than on his/her competency to do the job. However, more companies have adopted competency-base hiring systems recently. In 2015, the Korean government started to encourage the use of the NCS (National Competency Standards) in hiring new employees in public institutions.

The purpose of this study was to explore the current status of competency-based hiring among Korean companies, and to make suggestions for its proliferation. A survey was conducted and 449 HR managers responded. Five case studies were conducted: one small sized private company, one conglomerate, and three public institutions. To identify perceptions and needs of both supply and demand sides, HR managers from the private and public sectors, job seekers, and career center staffs in colleges were interviewed. Suggestions for developing competency-based hiring were discussed.

The Korean government should provide clear policy guidelines for NCS-based hiring. The revision of related laws should be considered to enhance fairness and equality in companies' hiring process. Success cases of NCS-based hiring should be accumulated and disseminated and continuous support and monitoring should be accompanied as well. Linkage of NCS-based hiring and existing policies which target HR practices will bring about synergy.

Research on the Revision of the Standard Curriculum for Career Counselor Training

Hyunjin Jang, Jongbum Lee

The purpose of this research is to review the existing standard curriculum for career counselor training from the perspectives of the present and the future, collect opinions on necessary improvements and finally propose a revised standard curriculum for career counselor training with full justification.

The standard curriculum for career counselor training consists of a set of basic subjects (or fields) that aspiring teachers should learn in order to obtain the certification of career counselor in accordance with the Act on the Certification of Teachers' Qualification. It also forms the foundation upon which training programs to certify the minor in career guidance are drawn.

The revised version of standard curriculum was produced after in-depth reviews and analyses on the current status and significance of the existing curriculum to certify career counselors, the results of previous research on curriculum, the changes and progress of the standard curriculum for career counselor training, and similar training programs of other countries. In addition, the opinions of school teachers and professional career educators were collected with regard to the revised version of standard curriculum for career counselor training. Various research methods were used including document reviews, focus group interviews, analyses of similar cases at home and abroad, Delphi assessment and seminars.

The basic direction of the revised standard curriculum for career counselor training is as follows. First, career counselors are produced in two tracks; 'training programs for minor certification' and 'master's program at graduate school of education.' One may acquire a minor in career guidance by taking

either a ‘career guidance training programs for minor certification’ or a ‘master’s program at a graduate school of education.’ Those who take a minor training program are required to acquire slightly higher minimum credits for minor certification in career guidance than those in a master’s program in a graduate school of education.

<Table 1> Basic direction of the revised standard curriculum for career counselor training(Minor certification & Master’s program)

Credit		Training for minor certification (to acquire a minor certificate)	Master’s program at graduate school of education (minor certificate + master’s degree)
Total credit		38 credits at min.	30 credits at min.
Subject	sub-total	30 credits at min.	24 credits at min.
	basic subjects	compulsory subject	compulsory subject
	elective subjects	basic subject and elective subject	basic subject and elective subject
Education subjects		8 credits (3 subjects) at min.	6 credits (2 subjects) at min.

Second, the revised curriculum is designed to develop abilities required of career counselors at present and also in the future. Third, the revised curriculum is an integrated curriculum applicable to all levels and types of schools, including both middle and high schools, since career counselors are randomly assigned and rotated from one school to another, regardless of the level and type of schools. Fourth, among the subjects included in the standard curriculum for career counselor training, ‘basic subjects’ and ‘education subjects’ should be taught as compulsory subjects in both training programs for minor certification and master’s programs at graduate schools of education.

The revised standard curriculum for career counselor training consists of subjects in four categories; ‘basic subject’, ‘education subject’, ‘elective subject’ and ‘field practice.’ Basic subjects and education subjects are compulsory subjects, while training institutes may choose elective subjects at their own discretion. Compulsory subjects are designed to develop basic abilities required

of career counselors, and elective subjects are in-depth subjects related to compulsory subjects. It is necessary that ‘basic subjects (or areas)’ required for career guidance training should be prescribed as compulsory subjects. Field practice is not compulsory but training institutes are recommended to include field practice in the curriculum in order to provide field-oriented training.

<Table 2> Comparison of subjects between the existing standard curriculum and the revised curriculum

category	Current curriculum			change →	Revised curriculum		certification	
	Subjects	credit			Subjects	credit	minor certificate	master's degree
basic subj ect	Introduction to Career Education *	3	content	Introduction to Career Education	2	•	•	
	-	-	new	Planning on School Career Education	2	•	•	
	Operation of Career Guidance Programs *	3	title, content	Planning and Operation of Career Education Program	3	•	•	
	Exploration of Job World and Job Information*	3	title, content	Guidance on Exploration of Job World and Job Information	3	•	•	
	Exploration of Education World and School Information*	3	title, content	Guidance on Exploration of Education Opportunities and School Information	3	•	•	
	Diagnosis of Youth's Career Attributes*	3	title, content	Understanding of Career Psychology and Assessment Tools	2	•	•	
	School Selection Guidance Method: Theory and Practice *	3	title, content	Career Guidance in School: theories and practice	3	•	•	
	Career Experience and Local Community*	3	title, content	Operation of Career Experience Programs and Link with Local Communities	3	•	•	
	sub-total	21		sub-total	21	21credit (required)	21credits (required)	
	elect ive	Planning and Operation of Career and School Selection Guidance	3	combi ned into a basic subject				
Planning and Operation of Career & School Experiential Activities		2						
Guidance on Career Portfolio		2	deleted					
Creativity and Personality Diagnosis and Assessment		2	deleted					
Career Guidance for Vulnerable Groups *		2	title, content	Career Guidance for Career-vulnerable Groups	2			
Work Ethics	2	merged by other subject	-	-	-	-		

category	Current curriculum		change →	Revised curriculum		certification	
	Subjects	credit		Subjects	credit	minor certificate	master's degree
	-	-	new	Career Learning Coaching	3	•	
	Management and Use of Information on School Admission Exams	2	title, content	School Admission Exams and School Guidance	3	•	•
	-	-	new	Labor Market and Guidance for Employment	3		
	Career & School Guidance for Parents *	2	title, content	Career Education for Parents	2	•	
	-	-	new	Field Research Method for Career Education	3		•
	-	-	new	Future Society and Career Education	2	•	
	sub-total	17		sub-total	19	9 credits (optional)	3 credits (optional)
Education subject	Career Counselors' Capacity Building	3	title, content	Theory of Career Counselors	2	•	•
	Research on Career and Vocational Training Material	2	title, content	Theory of Career Education Materials	2	•	•
	Career and Vocational Training Methodology	2	title, content	Theory of Career Education Methodology	2	•	
	Theory of Career Education Evaluation	2	title, content	Theory of Career Education Evaluation	2	•	•
	sub-total	9		sub-total	8	8credit (required)	6credit (required)
field practice	field practice for Career Education	4	title, content	field practice for Career Education	4		
	total credits	51		total credits	51	38 credits (at. min)	30 credits (at. min)

- note: 1) Subjects with "*" mark are 'basic subject' to be taken in order to be certified as 'career counselor' in accordance with Article 4 "Detailed Certification Criteria for Teachers for Kindergartens, primary schools, secondary schools and special schools."
- 2) Credits (training hours) and subjects may be decided by training institutes at their own discretion, but basic subjects and education subjects should be taken as 'compulsory subject.'
- 3) Elective subjects may be decided by training institutes at their own discretion. Trainees should acquire at least 30 credits in basic subjects and elective subjects, in order to earn the certificate of minor, and 24 credits to earn a master's degree at the graduate school of education.
- 4) As for training during the semester in the minor's training program, trainees should apply what they learned in the programs and submit a report on the result for evaluation.

The revised standard curriculum for career counselor training can have impact only if the subjects and contents of the revised standard curriculum are reflected in actual training programs for career counselors certification. To make

it happened, it is important that training institutes have a commitment to reflecting the revised standard curriculum in their training programs, and such training programs should be assessed and approved by relevant departments of the central government which examine whether they comply with the standard curriculum and have appropriate contents. In particular, if master's programs are established in graduate schools of education, the quality of such programs should be assessed and approved by relevant authorities at the beginning stage. It is also necessary that career counselors training programs focus on case studies and hands-on practices, and clear guidelines should be provided to the faculty in order to make sure that the standard curriculum is fully followed. We hope that the revised standard curriculum for career counselor training, which is the outcome of this research, will be properly reflected in training programs, thereby contributing to cultivating highly -competent career counselors.

Building Strategies of HRD Support System through a Link between Region and University

Jaesik Jun, Bomi Kim, Heesu Lee, Gigon Nam

The purpose of the study was performed in order to develop a support system for the human resources development needs of local industry through a link between region and university. Concretely, it proposed the policy directions and detailed plans to set the smoothly linking system for regions-universities-industries. Also, the study had a purpose to support “support for the promotion of local universities and local human resources” by government. It was legislated the 「Law on the Promotion of Local Universities and Local Human Resources」 as a local universities support comprehensive plan on January 2014. And, it is being established 「the Promotion of Local Universities and Local Human Resources master plan」 as a follow-up action.

The main contents of this study are as follow. First, it analyzed the gap in the development and utilization for local human resources in local universities. Second, it analyzed the human resources development policy status and problems linked the communities-local universities-local industries. Third, it identified the support strategies and directions of the local universities through active linkages between the communities and local universities. Fourth, it suggested plan for the universities support through links with regions. Fifth, it suggested the desirable sharing for role and functions between local communities and universities.

We proposed a policy based on the results of this study as follows: First, it proposed implementation strategies focused ‘vision-goal -policy area-initiatives-direction’ as the basis for the 「Law on the Promotion of Local Universities and Local Human Resources」. Frist of all, it presented the vision as a ‘creative community that universities-industries-human resources do co-prosperity’. To this end, it presented the ‘developing competitive local universities and human

resources leading the creative economy' as a policy goal. Next, it was derived a total of 10 initiatives to accomplish the vision and policy objectives separated by 3 policy areas of the local universities, local human resources and communities.

Second, specifically we derived 25 detailed tasks about 3 policy areas, 10 initiatives to realize the creative communities that local universities, local industries and local human resources do co-prosperity. And, it also proposed the implementation plan for each detailed tasks.

Third, we proposed the implementation of local-universities human resources development networking building as the desirable sharing for roles and functions between local communities and universities. Specifically, it is required to set collaborative network between central and region utilizing 「Local universities and local human resources development assistance committee」. It is also required to build and operate a local voluntary activated network. Finally, it is necessary actively to utilize national 'Creative Economy Innovation Center' as a system to develop local human resource associated with local universities.

Demands for TVET and Strategies to Industry-schools Cooperation for Foreign Workers

Jaesik Jun, Gigon Nam

This study aims to investigate the policy to attract foreign workers who attain the permit through an employment permit system as international students in Korean colleges with the help of the cooperation between industry and schools. One of the national policies that respond to the lack of human resources in the future is to utilize the foreign human resources efficiently in a global dimension. The number of foreign workers are consistently increasing. However, there are many discrepancies in terms of utilizing them. To not only resolve the lack of human resources in the future, but also to respond to discrepancies in exploiting foreign human resources, it is essential to attract participation from universities which have already developed an excellent TVET (Technical and Vocational Education and Training) infrastructure. As for the result, 25.6% of enterprises among those that participated demand TVET from foreign workers who attain the permit through the employment permit system. Therefore, this study suggests establishing a TVET policy to respond to this demand. Prior to establishing a TVET policy, it is necessary to consider the period of TVET, the pattern of TVET, and recognize the change of the context in general standards of foreign human resources. The university also should review the institutional modification to attract foreign workers as international students.

Key words: foreign workers under employment permit system, lack of labor force, skill mismatch, industry-school cooperation, demand for TVET

Reform of Wage System Based on the National Competency Standards (NCS)

Weon-Ho Jeong, Mi-Ran Kim, Yong-Jin Nho

The Park government has been accelerating the development and application of the National Competency Standards (NCS), motivated by the national agenda of “a realization of a competence-based rather than a degree-based society.” So the government has completed the development of 797 NCS during 2013 and 2014, which the government is pushing ahead various initiatives in order to implement the NCS in vocational education and training (VET) and corporate HRM. In the midst of this, the government also announced plans for the NCS’ implementation in wage system reform during the second half of last year, but the specifics are yet to be determined. This study has revealed the need for a job-based and skill-based wage system to replace the current seniority-based wage system, and the goal is to examine ways in which the NCS can be effectively utilized for this purpose.

Upon analyzing the NCS structure in detail (ch. 2) and demonstrating the need for wage reform (ch. 3), this study investigates examples of firms that have restructured into a job-based and a skill-based wage system (irrespective of the NCS) and the relation between the NCS and wage system in Australia (ch. 4), and then finally examines the applicabilities and limitations of NCS in regard to the wage reform process (ch. 5).

Currently, seniority-based pay is Korea’s predominant wage system, and the following reasons have been brought forth as to why reform is needed. First, seniority-based pay is highly rigid, but the flexibilization of the labor market demands wage flexibility. Second, seniority-based pay (specifically targeting regular employees) exacerbates the two-tier structure of the labor market, while widening the wage gap between regular and irregular employees, conglomerates and SME’s, and between different industries and occupations. Third, due to technological progress and the development of educational/training

institutions the emphasis on skill acquisition within firms has waned, leading to decreased importance of continuous employment in a firm in regard to wage determination.

Job-based pay system and skill-based pay system are alternatives to the current seniority-based wage system. The NCS can be utilized in the initiation phase of the alternative wage systems, but the scope of its application is limited.

One potential benefit of the NCS is that it can be used in the establishment of job surveys and job classification systems in the initial phases of the job-based system because the NCS categorizes jobs based on various subcomponents, such as units of competency and components of such units. Due to the fact that not all job positions directly align to its job classification benchmarks, the NCS cannot be directly applied in these cases, but relevant reference materials can be used to facilitate this process. The NCS can also be useful for drawing up job descriptions because such documents are exemplified in its application package. It can also be used for comparative analysis. Furthermore, the NCS application package provides the Unit of Competency Framework based on the skill level assessed by each unit. Thus, the NCS can be helpful as a reference when distinguishing job grades between similar jobs, providing a basis for job evaluations.

On the establishment of skill-based pay, analyses and assessments of skills are used to distinguish skill grades, and using similar reasoning as in the job-based pay, the NCS' units of competency can be applied to analysis of skill levels in specific firms, while acting as a comparative resource and a general reference. It follows that the Unit of Competency Framework can be a resource for skill assessment in the determination of the aforementioned skill grades.

Despite its applicability, the NCS can be used solely as a reference because the NCS, like its namesake suggests, is considered only as a standard across industries. In other words, the NCS is limited in that it cannot be applied directly to analyses of individual firms. In regard to the skill-based pay system's operation, the lack of a basis of an accreditation system can be another potential limiting factor of the NCS. The establishment of skill-based pay is dependent upon ensuring the pay process is impartial and rigorously enforced; however, if an external accreditation system is already in place, then companies could simply make use of it or alter it to produce their own in-house

accreditation system. Thus, the establishment of a New Job Qualification System and a National Qualification Framework on the basis of the NCS is an urgent agenda.

However, these prognoses are merely based on intuition, as there are no precedents in which the NCS has been used in wage reform. Over time, there will be a need to assess problems and propose improvements to the NCS, as cases of its implementation begin to accumulate. To that end, an expansion of consulting services and government support for that will be required to ensure its success.

International Comparative Study of Apprenticeship: the Case of Germany and Switzerland

Hong Seon-yi, Choi su-jeong, Kim min-kyoo

1. Overview

Recently, there are several serious social issues including lower employment rate among younger generation, academic ability's inflation and rising age to entry into the labor market. In order to solve these problems, the government of Korea has struggled to carry forward a political agenda for cultivating talented individuals who are suitable in the industry field.

The government would be test-operated a Dual Vocational and training system that trainees who are high-school students could receive education about efficient on the job training and will go into real work field as a skilled worker. So as to introduce the vocational education and training school and expand it, examining and analyzing thoroughly about a case of nations which are successfully established and managed this system for ages must take precedence. Because the ultimate objective and direction of vocational education and training will be same way, even though there are some differences of history, background and social recognition about the apprenticeship education.

In this respect, this research contains the institutional framework and supporting system, current and operation situation, procedure and curriculum of Germany and Switzerland's dual systems that are successful models in the world, and comparatively analyzes to draw a conclusion including several implications and improvement plans for Korean education. In order to achieve the research's objectives and produce the results, it is used to the literature on data analysis and research meeting had been taken out of country and collect materials, and expert consultation.

2. Institutional framework and supporting system of Germany and Switzerland's Dual system

In the second chapter, it has examined legislative requirements and education systems of Germany and Switzerland's dual system, functions and roles of each section participating in the dual system, and training of teachers and standards of qualification. Germany and Switzerland have achieved good results through the solid institutional framework and supporting systems. It makes substantial outcomes that each participant of dual system has acted within the legal boundaries and implemented their roles and functions perfectly. Above all, they have social recognition from a long tradition that the industry has to train professional manpower themselves.

In terms of fundamental concepts including the whole education system, formations and contents of the dual system are not significantly different from Germany and Switzerland's dual system although some distinction in the weight of role of participating institutions and authorities. The most common importance of dual system's operation both Germany and Switzerland is the industry consistently makes an investment in human resource, materials and time. In the long run, participating in dual system of the industry will be influenced on the industry positively, and optimistic social mood and recognition about the vocational education and training. The government's systematic support are helpful to make the successful model of dual system.

Due to the dual system, trainees could get a opportunity of employment and its income, occupational ability and working level education in a real work field with high-tech as well as they could be provided differ occupations and various education and training. The industry will obtain skilled manpower who are needed efficiently than retaining outside, improve a quality of product and service as well as higher productivity, and save expenses of recruitment and training for new employee. Moreover, thereby the government obtaining skilled workforce, it will be satisfied the labor market's demand. This can anticipate economic and industrial stabilization, capability improvement of the dual system autonomously, and data collection about labor market principle of supply and demand

3. Current management of the operation

In the third chapter, it has examined current participation and management

of the Germany and Switzerland's dual system through statistical materials. Both of Germany and Switzerland increase the number of those exclusively responsible for the work by the dual system. There are positive trust and social identity to skilled workforce from the dual system, and they could be received favorably that's because of a higher participation of the dual system.

Germany and Switzerland have tried to make persistent efforts to develop the dual system and modernize for new types of occupations. In addition, they regularly implement to monitoring supply and demand of the dual system, and then perceive a change of the system. They could help those who would like to take part in the education by consulting what they will do through the dual system and what kinds of jobs they can be chosen for the future.

Through the dual system, Germany and Switzerland could generate a lot of net benefits in terms of cost-effective, and these net benefits will be digitized and produced clearly. It related to ease the financial burden of vocational education and training by the government. Due to the dual system's implementation by the companies and industries, the government will be cut budgets into the education. Therefore, they will have a higher level of contribution about the dual system.

4. The procedure and curriculum

In the four chapters, it has examined what kinds of curriculums would be operated in reality with Germany and Switzerland's operating procedure of the dual system. There are some important characteristics. First of all, the dual system, parallel manages between vocational school and industry, could provide an opportunity to learn skills and knowledge systematically about expected occupation by trainee. This system of division of labor with high- quality is compatible with occupations will be offered by going to university and it could be bring about the number of jobs

Along with that, people who want to participate in the dual system, there are societal attention and supporting for help them to search career and set up. From secondary education, they will experience to visit an enterprise and practice exercise, and get a chance to consult with teachers or trainers of the

dual system through the enterprise, vocational school and job fairs. If some people have difficulty like failure of job interview, they can receive additional consultant service by the school or government.

Addition, Germany and Switzerland has established a substantial infrastructure for maintaining high quality of the dual system and protecting enterprises and trainees of participating in the system. There is detailed in whole process on the basis of law of vocational education training including selection of trainees, contract with the apprentice, implementation, final examinations, and issue certificate. As well as, it is contained roles and responsibilities of each conference, who are the government, school, chamber and so on, and the government would monitor regularly that the chamber will keep rights and rule of the law, and step up tremendously to solve upcoming problems.

5. Possibility of improvement

This is explained several implications through the research about the dual system, and on the basis of it, there are possibilities of improvement and required assignments in these words.

First, it will be needed to improve the law for operating the dual system effectively, and statutes and regulations must include whole systematic procedure from contracting the apprenticeship to recognizing certificates.

Second, the government has to be required legal and institutional intervention to construct the cooperation system between vocational school and enterprise, and finally the job training in the industry can be a formal vocational education curriculum.

Third, they would administer roles and responsibilities about the dual system's management to chambers and conferences, and support them to operate effectively by related laws and regulations.

Four, teachers from specialized vocational school have to acquire national technique qualification corresponding professional field compulsorily so as to improve instructional competencies. Particularly, the government will be supported efficient utilization by industry educational adjunct teachers institutionally.

Five, after completion of the vocational education and training, they will qualify trainees for the certification using various evaluation methods.

Six, they would be required reconstruct performance management and monitoring systems in order to control quality of the dual system.

Until now, the government has put in a great deal of effort to education and training in real work field for specialized vocational high school. However, it is too hard to operate following the level of Germany and Switzerland's dual system, and there are still a lot of problems and issues to solve. Before managing of vocational training and education school, the case of Germany and Switzerland gives important and special implications. In order to manage the dual system with the direction of the government and achieve successful results, it must be required active participation of enterprises and industries. Therefore, the government will establish legal and institutional foundations continuously because the business stands to have expired without any engagement of the industries.

A Study on the Improvement Direction for the Post-secondary Vocational Program for Students with Special Education Needs

Ji-yeon Lee, Joohee Chang

The purpose of this research was to suggest the improvement directions for the post-secondary vocational program for the students with special education needs both in special and general school.

For the purpose, quantitative and qualitative research methodology were used. For quantitative methodology, the survey instruments were developed for school administrators, teachers and parents in three factors; input, process, and output based on the related legislation. The input factor was divided into five categories, and the process and output factors were consisted with two and four categories respectively. This survey were conducted during 2 weeks(from September 2 to September 16, 2015) through e-mail and post with the support of the Ministry of Special Education Policy division to all schools both in special and general school where post-secondary vocational program for the students with special education needs were running. A total number of 1,051(158 school administrators, 367 teachers, and 526 parents) from 88 schools were responded. For qualitative methodology, school visiting and face to face interview were conducted with four special schools and teachers for getting more detail information about how to improve the post-secondary vocational program for the future.

This research suggests four improvement of basic directions as follows. First, the identity of post-secondary vocational program for students with special education needs is to provide the vocational rehabilitation training. Secondly, the core curriculum of post-secondary vocational program should be focus on the employability of students on the specific job training, career management skill, successful job-seeking skill, and follow-up management after graduation.

Thirdly, the criteria of selection of student in post-secondary vocational program should be focus on the personal who have higher degree of the motivation and desire for worker. Lastly, local government and community should provide the strong life-long education program including the independent living training for individual who could not be included on post-secondary vocational program. In addition, finally this research suggested the directions on the various improvement of the program based on the survey results, interview with teachers, and consulting with professional person with input, process, and output of the post-secondary vocational program accordingly.

The post-secondary vocational program for students with special education needs must be have the clear identity for vocational rehabilitation training, and provide the curriculum to be the independent quality of life after graduation as the last stage of the post-secondary educational level. It must be the ultimate purpose of the post-secondary vocational program for the success and effective education.

The Strategy and Policy Recommendation for Society Needs Matched Higher Education Reform in Korea

Tong Park, Euikyoo Lee

This study aims to explore the strategy and policy recommendation for society needs matched higher education reform in Korea. Recently Korean society faces a lot of social environment changes such as entering a low growth era, widening of the income inequality according to the expansion of low productivity service industry, school-age population decline due to the low birth rate. Accordingly we need to transform the whole education paradigm.

For this purpose, we analyze the concept of society needs change, status and problems of Korean higher education reform, higher education reforms in major countries, the current government's higher education reform. The government is pursuing several society needs matched policies. But many experts assess that those policies can not reach fundamental paradigm changes.

As a result of this, it appears as an urgent task to convert existing system into a new system. This study focuses on the policy alternatives to respond to this task.

Strategies for Expanding to Attract Foreign Trainees to Lifelong Vocational Education Institution

Heekyung Cho, Hangu Ryu, Soojeong Lee

I. Study Necessity and Purpose

In South Korea, recently government financial departments have requested to allow excellent private organizations to train foreign people for more job creation and investment activation. This item on foreign trainee acceptance was put on the agenda of the financial ministerial meeting (Jul. 30, 2014) and trade and investment promotion meeting (Aug. 12, 2014). Previously, organizations permitted to train foreigners in the country were limited to national/public training agencies or investment enterprises. Whereas private institutions were prevented for concern over illegal employment/ stay of foreign trainees; difficulty of guaranteeing training effectiveness due to language problem; difficulty of controlling poorly-managed private institutions under the reporting system for private institution establishment, etc. They were excluded from the group of organizations permitted to provide training programs for foreigners.

However, criticism arose that by inhibiting all of the private educational institutions from training foreign trainees due to the possible illegal stay, etc., the government just eradicated any single change of even excellent internal/external institutions to provide programs for foreigners. Also, many successful foreign institutions came to be known in Korea, which reaped economic gains through foreign trainee programs. In this response, the Ministry of Justice announced a plan (draft) to allow excellent private educational institutions to provide foreigner training programs (Aug. 8, 2014).

This revision (draft) is to be applied on the pilot basis first to institutions affiliated to a listed company or university with organized educational system for foreigners and their management.

A large number of lifelong vocational education institutions, although they

have an excellent learning environment and lecturers, are limited in recruiting foreign students due to the poor domestic regime. In this situation, relevant procedures will need to be streamlines such as the certification of foreigner training institution designation for lifelong vocational education institutions to expand foreign students.

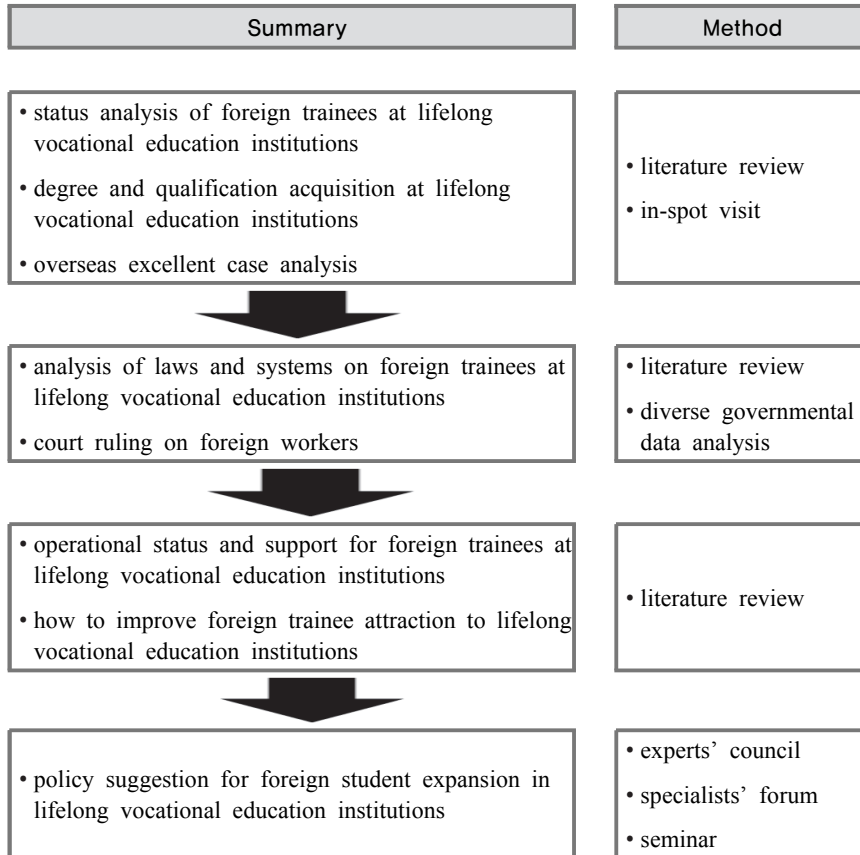
In this regard, the academic literature review is deemed necessary on lifelong vocational education institutions that will be in charge of foreign trainees' technological education. Also, the status quo of Korea's legal regime on lifelong vocational education institutions needs to be reviewed while interviewing working-level officials. Foreign trainees, after completing a domestic course at such institutions, may return to their country but if they get a job in Korea, proper labor policies for them will also need to be considered. In consideration of such necessities, the present study was conducted.

In this study, foreign cases were investigated based on literature reviews on how to attract more foreign trainees to lifelong vocational education institutions; the national legal regime was examined; and officials from such institutions were interviewed to analyze the study findings. Based on these processes, this study looked at how to induce more foreign students by diversifying the curriculums of such institutions; for employed foreign trainees, how to activate the support for foreign workers staying in Korea by identifying their problems in adapting to workplaces and staying in Korea and how to prevent unlawful stay; and how to supply skilled foreign workers in order to present reasonable labor policy for foreigners.

II. Study Method and Process

For this research, literature review, interview, experts' counsel, forums and seminars were utilized along with the outcomes therefrom. For literature review, diverse data materials were used such as domestic/foreign academic theses and books; as well as press releases of government departments including the justice ministry, education ministry and labor ministry (copyrighted public records allowed for free use); research reports, press releases and various statistical data. As for interview-based investigation, 15 officials of lifelong vocational education institutions were interviewed from September 21 to October 9, 2015. In the interviews, these fully-experienced officials and specialists' voices from the field were heard on the current operational status and support

of lifelong vocational education institutions along with how to attract foreign students via 12 essay questions in 3 dimensions. The procedures above are as in the following diagrams;



III. Status of Foreign Trainees at Lifelong Vocational Education Institutions

South Korea has a total of 78,483 private educational institutions according to the 2015 statistics. Most of them, or 71,573, are related to elementary/middle/high school curriculums. Lifelong vocational education institutions for adults number 6,946, accounting less than 10%. Of the institutions, merely 4,064 are for vocational skill training.

In the 2015 statistics, the number of private institutions for vocational skills is 4,064. Their number of annual trainees is 549,594 and number of lectures is 16,157. In South Korea, these vocational skill training institutions account for only about 5% and have lower number of learners, receiving only

low attention in the society. Nevertheless, under the Act On the Establishment and Operation of Private Teaching Institutes and Extracurricular Lessons, such institutions are grouped into the same category as college preparatory institutions and subject to lots of regulations.

Prior to examine the current situation of foreign trainees in South Korea, the overall situation of foreigners staying in the country is to be looked at. In 2010, the number of foreign people staying in Korea was 1,261,415, then it rose to 1,797,618 in 2014, jumping by 42.5%. This increase is mainly thanks to overseas Koreans staying in the country or short-term visit or tour, etc.

For the past 5 years, the number of foreign students fell by 12.0% from 69,600 in 2010 to 61,257 in 2014. The number of industrial trainees also decreased by 34.4% from 5,350 in 2010 to 3,507 in 2014. The number of regular trainees dropped by 28.6% from 37,809 in 2010 to 27,000 in 2014.

Looking at the change in the number of foreigners staying in Korea, it rose steadily from 750,000 in 2005 to record 1.26 million in 2010 and 1.8 million recently in 2015. The number of foreign entrants also has moved up steadily since 1990 to reach 7,387,000 in July 2015 (Immigrant Bureau/Foreigner Policy Bureau, Jul., 2015).

Separating them according to the nationality, Chinese account for 36.8%; Vietnam, 14.1%; the Philippines, 7.0%; and Thailand, 5.3% in order, recording 50,000 or over collectively. According to the visa type, short-term visit (C-3) is 56.6% among the Chinese; and employment as a non-specialist (E-9) is more frequent among the Vietnamese (71%); Thailand (97.2%); and the Philippines (79%). Employment as a non-specialist (E-9) is also more frequent among Uzbekistan, Indonesia, Cambodia and Mongolia recording 500,000 or under. Japan showed overseas study (D-2, 49.8%) and regular training (D-4, 27.4%) most frequently.

IV. Successful Overseas Case Analysis

Japan

Specialized Training College of Japan refers to organized educational facilities other than those set forth in Article 1 of School Education Act (kindergarten, elementary school, middle school, high school, secondary educational school, special support school/college, and specialized tertiary institutions), of which year of education provision is at least 1 year; number of lectures

provided is no less than the frequency set forth by the education minister; and number of learners is at least 40 persons at any given time.

Specialized training colleges were established in 1975 under the school system. The school education act states that specialized training schools are to cultivate vocational abilities or abilities necessary for daily lives or provide general education by implementing practical vocational training and specialized skill training. These colleges have nurtured experts in diverse fields.

The Japanese government has pursued to attract more foreign talent for several years of late with a view to enhanced national competition and industrial and entrepreneurial globalization. Especially, the government is more proactive in inducing foreign students with promising performance. Especially in January, 2008,

Especially in January 2008, according to the Prime Minister Fukuda's proposal, Japan established and has operated the plan to attract 300,000 foreign students. Compared with the previous foreign student-related measures mostly about responses in the attraction stage at entry and returning support, the new plan is characterized to offer organized implementation procedures including their adaptation to the Japanese society such as employment and post-graduation career path.

To this end, each relevant Japanese government has worked in close cooperation while easing immigration control policies to a large extent such as foreign students' stay extension or incorporation of stay status of school attendance into study abroad. Also since 2007, prior to the plan to attract 300,000 foreign students, the Asian Talent Fund Initiative has been in place as a policy support for foreign student employment jointly by the education ministry and economic ministry. This project is to induce excellent foreign talent to come to Japan and actively work at Japanese companies based on close cooperation of industry and academia to recruit and select foreign applicants as well as to provide specialized training programs, Japanese language courses and even support to get a job.

These policies raise expectation for better employment support to foreign learners. Since 2009, documentary requirements have been eased for foreign students to extend their stay or conduct research or join a company. In July, 2010, their stay status of school attendance was included in study abroad to become unified as part of phases release of immigration policies.

Australia

Australia has CRICOS(Commonwealth Register of Institutions and Courses for Overseas Students, hereinafter,CRICOS), a website providing diversified vocational training programs for foreign learners. The CRICOS is a government-managed online education site informing every educational institutions and vocational courses to people studying in the country with student visa. Therefore, institutions registered with the CRICOS mean they are qualified to teach foreign students in Australia. The site introduced publicly certified educational institutions for foreign students recognized by the government. The CRICOS' college-level courses gained governmental approval and an ID number.

Educational institutions receiving this number are under through management of the government to guarantee quality education at least a certain level. Student visa is issued only to those studying one of these numbered institutions. Regarding immigration courses, only institutions with this assigned number are recognized.

The CRICOS site makes available each and every duly-established school (from kindergarten to graduate school) information in every state of Australia, ranging from language schools to doctor degree programs. The site allows users to search according to major study, institution, region and course type for their desired course term, school expense, school website and contact numbers in details.

The EDUCATION SERVICES FOR OVERSEAS STUDENTS ACT 2000 is organized with Chapter 1 General Theory; Chapter 2, Licenser Registration; Chapter 3, Duty of Certification Organization; Chapter 4, National Code; Chapter 5, Tuition Payment and Student Protection; Chapter 5, Financial Support for Foreign Student and TPS Supervision and Advisory Committee; Chapter 6, Implementation; Chapter 7, Inspection and Study Service Provider Search; Chapter 8, Others.

The main purposes of ESOS 2000 ACT are to present the ground for tuition guarantee and refund provision for foreign students; protect their safety; contribute to the national reputation in quality educational and training services of Australian education institutions; and report student visa-related information to the national government. The Australian government recognizes educational programs for foreign students regarding language courses, degree preparatory courses and degree courses and vocational training courses. The

ESOS 2000 ACT is operated in a manner to require the minimum set of teaching capacity and conditions to all of the institutions providing educational service to foreign students in the country.

V. Legal Regime Status

First, this study deals with regulations including; 1) VOCATIONAL SKILLS DEVELOPMENT ACT [implemented on 2015.1.20.] [Act No. 13042, 2015.1.20., partially revised]; 2) SECURITY ACT [implemented on 2015.7.21.] [Act No. 13049, 2015.1.20., partially revised]; 3) VOCATIONAL EDUCATION AND TRAINING PROMOTION ACT [implemented on 2015.7.21.] [Act No. 13048, 2015.1.20., partially revised]; 4) ACT ON FOREIGN WORKERS' EMPLOYMENT, ETC. [implemented on 2014.7.29.] [Act No. 12371, 2014.1.28., partially revised]; 5) ACT ON THE ESTABLISHMENT AND OPERATION OF PRIVATE TEACHING INSTITUTES AND EXTRACURRICULAR LESSONS [implemented on 2015.8.4.] [Act No. 13120, 2015.2.3., partially revised]; and 6) CONTROL LAW [implemented on 2015.4.16.] [Act No. 12782, 2014.10.15., partially revised]. Second, it also examines court rulings on foreign students or foreign workers including; 1) Ruling of unconstitutionality on the decision to ease the introduction criteria for industrial technical trainee ② Article 25(4) of the ACT ON FOREIGN WORKERS' EMPLOYMENT, ETC. ③ cancellation of turning-down of labor union establishment declaration.

VI. Interview Result Analysis

This study interview results are, first, about the general matters of ongoing foreign student training programs based on the questions on operational status of lifelong vocational education institutions along with successful and effective training case examples. It was found that such lifelong vocational education institutions were more favorably positioned to swiftly respond to changes in the field of work instead of uniformed or large-scale program operation like specialized colleges or polytechnic colleges; and operate long and short-term vocational courses. Those providing programs without term separation like universities were found in a more favorable position than specialized or polytechnic colleges. The educational period of foreign trainees was found to vary according to the academic areas of lifelong vocational education institutions to be easily adjustable depend upon each area characteristics in terms of operation. For this reason, these institutions were found more capable of

providing reasonable and organized training by easily dividing learners into the beginner group, skilled group, improvement group, etc.

Unlike colleges providing educational function, lifelong vocational education institutions can efficiently change any inappropriate part of vocational training schedule or lecturing method while continuing to help learners readily provide their skills to the work field. They can also instantly supplement facilities and equipment utilized on the site whenever necessary or take first response or use knowhow even during the operation thereof.

Second, the questions on operational support to lifelong vocational education institutions found that small-scale short-term program was necessary in providing vocational education and technological training for foreign students unlike Korean nationals. The justice ministry survey on support (2-1) discovered that a majority of respondents said lifelong vocational education institutions were more appropriate to teach foreigners vocational skills as over 50% of the foreign trainees in Korea were Korean Chinese and such institutions built extensive experiences on Korean Chinese' technical training operation (H-2, F-4 qualification change technical training) rather than specialized colleges or technological schools.

Lifelong vocational education institutions will need to share technical training program methods or training courses in multiple disciplines for operational purposes while consulting the joint management of lecture rooms, practice rooms, facilities, lodging facilities and students. The general federation of private educational institutions will need to directly take of such aspects with full responsibility. The survey found the need to connect lecture, etc. with polytechnic colleges to utilize their equipment, devices, and facilities.

Third, the survey questions on improvement method found some opinions to resolve the issue of unfair recruitment. By applying the employment as a non-specialist (E-9) system during recruiting foreign students, permit those in 15 South East Asian states, who passed the Korean language test back in their own countries to enter Korea by separating industry areas such as manufacturing, construction and agriculture. Then if they are managed by the EPS (labor ministry) center or, after all, by one of the education ministry, justice ministry and labor ministry for cross-border management (consulate), the issue could be resolved according to them.

Another improvement is to build functional connection between polytechnic colleges and lifelong vocational education institutions for enhanced efficiency

in vocational education. If such a connection model is structured, overlapping or excessive governmental investment will be reduced, saving national budget as proposed by some.

This interview on working-level officials and specialists concerning lifelong vocational education institutions found it was desirable to supply foreign technicians with appropriate skills for the fundamental industries of Korea by attracting more foreign trainees to lifelong vocational education institutions.

Now the national fundamental sectors experience decreasing competitiveness due to personnel shortage and management problems such as poor work environment, etc. In this situation, the trade ministry and justice ministry plan to jointly conduct a pilot capacity verification project to help change the status of stay of foreign workers in the ground root industries while selecting more foreign technical personnel promotion colleges. It is necessary for lifelong vocational education institutions to cultivate and actively utilize personnel for fundamental industrial sectors through their programs.

VII. Policy Goals and Tasks

Based on the study findings, policy goals are presented herein as follows;

Policy Goals

1) Re-organization of foreign personnel policies and foreign personnel utilization

After teaching diverse technical courses to foreign students at lifelong vocational education institutions, any quality specialized/ technical personnel capable of contributing to the national economic growth should be actively accepted and utilized. Foreign personnel use policy will need to be organized to flexibly employ skeleton foreign workers capable of providing simple functional services in competition with Korean idle manpower for a certain period.

2) Clarification of functions of college, specialized college and lifelong vocational education institution by type

Four-year universities and specialized colleges are required to provide educational function whereas lifelong vocational education institutions should provide training function. Comparing the functionality of 4-year universities and specialized colleges with lifelong vocational education institutions, it is found that some specialized colleges and polytechnic schools impose some

disadvantage to foreign trainees (Korean language skill, etc.) as they teach foreigners together with Korean students simultaneously. And such a lecturing style does not base on foreign trainees' perspective, raising a risk of follow-up management problem. Specialized colleges, as they mainly focus on language training, provide zero functionality program. Polytechnic colleges teach computer-centered technical training while most foreign students have Korean elementary-school-level PC skills and cannot catch up with school curriculum. And they want more fundamental skill training that is not practically applicable.

On the contrary, lifelong vocational education institutions focus exclusively on actual practices and teach sophisticated skills or, that is, they produce masters to be readily used in the field after completing their courses. This strength will need to be maximized. Lifelong vocational education institutions should be supported to perform specialized programs differentiated from other educational institutions.

3) Improved foreign student maintenance and management by lifelong vocational education institutions

In order to guarantee the training quality of lifelong vocational education institutions, a certification system is necessary to be in place. The certification scheme of education ministry for foreign student attraction and management capacity (2015) should be modified, improved and utilized in the lifelong vocational education institutions. If the scheme is introduced, high-quality training environment will be established for foreign students to improve the national image and cultivate globalized talent based on successful training support by the Korean government. Along with this, the international trust on and competitiveness of Korean lifelong vocational education will be enhanced as well.

This certification scheme is to assess the foreign student teaching and management abilities of lifelong vocational education institutions; grant certification on foreign student education and management abilities of institutions satisfying a certain set of standards; give a certification to recognized organizations; and publicize certification results like the CRISCO of Australia to build an official certification system. The scheme is expected to promote effective transfer of advanced technologies of Korea to foreign trainees in a fresh operational method, contributing to enhanced national credibility, image and vocational capacity

building.

Detailed policy tasks are suggested as follows;

Policy Tasks

1) Separate legislation for lifelong vocational education institution promotion

Presently the lifelong vocational education institutions are regulated together with university entrance exam preparatory institutions and private teaching practices under the ACT ON THE ESTABLISHMENT, OPERATION OF PRIVATE TEACHING INSTITUTES AND EXTRACURRICULAR LESSONS [Act No. 13120, 2015.2.3., partially revised]). But the act is more of controlling facilities, tuitions, lecturer qualification, etc., while poorly institutionalizing support for vocational training activation.

Lifelong vocational education institutions are key training agency nurturing important technical personnel through recruitment, orientation, selection, employment and follow-up management. However, as of now, these institutions are not intensively protected, promoted or managed by any of the education ministry, labor ministry, justice ministry of education authority, etc. without a clear legal system. For this reason, despite rich infrastructure, such institutions are not growing. In this situation, a leading organization is necessary such as the Korea Research Institute for Vocational Education & Training to make the education ministry manage education; justice ministry, immigration; labor ministry, employment, etc. in close cooperation, ensuring efficient flow of foreign students' technical training programs.

To this end, a separate set of law needs to be established to promote lifelong vocational education institutions (tentatively, Act on the Promotion of Lifelong Vocational Education Institutions) to expand the autonomy of these institutions in tuition setting, lecturer qualifications, foreign student training operational methods, etc.,

2) Special act establishment for foreign student protection

For the convenience of foreign students staying in Korea, immigration related procedures and labor standard procedures need to be simplified to some extent while protecting them from human right infringement or other crimes. Necessary insurance policies and others should be educated in advance and follow-up support should be provided. For their efficient adaptation to Korean culture and lifestyles, association should provide preliminary education and

re-educate them in every 1~2 years.

A specific example is the Australian special law of Education Services for Overseas Student Act 2000 for quality management of foreign students and lifelong vocational education institutions. Currently, in South Korea, the FRAMEWORK ACT ON TREATMENT OF FOREIGNERS RESIDING IN THE REPUBLIC OF KOREA [implemented on 2013.7.1.] [Act No. 11298, 2012.2.10., other law revision] has been executed. Regarding foreign students in the country, Article 2 of the Act will need to additionally define foreign students.

- 3) Provision improvement and application of Standard for institutions subject to MoJ visa issuance, ACT ON THE DEVELOPMENT OF WORKPLACE SKILLS OF WORKERS, EMPLOYMENT SECURITY ACT, VOCATIONAL EDUCATION AND TRAINING PROMOTION ACT (draft)

The current MoJ visa issuance standard for excellent private educational institutions for foreign students recognizes specialized technical training organizations established by or affiliated to domestic listed firms or specialized technical training centers of universities and domestic office of overseas-headquartered famous specialized technical training centers or education centers with exclusive operational contract only. This eradicates the possibility of foreign student training even by outstanding private lifelong vocational education institutions. Therefore, by removing the ‘of universities’ part from the ‘specialized technical training centers of universities’ to open up the chance for certified good institutions to teach foreign students.

- 4) Tuition setting liberalization and tax break

Under Article 15 of the ACT ON THE ESTABLISHMENT, OPERATION OF PRIVATE TEACHING INSTITUTES AND EXTRACURRICULAR LESSONS, private institutions are to set tuitions on the voluntary basis and report to a regional education office. But, education superintendent, if deemed necessary for the stabilization of tuitions, etc., can adjust the amount via the tuition adjustment committee’s deliberation. But in fact, tuition increase levels have been often determined without full consideration of institution-specific facility/equipment/lecturer/curriculum quality, etc. Such practices are repeated only to undermine investment intention to enhance their training programs. In this aspect, tuition setting should be liberalized for lifelong vocational training institutions.

Regarding the tax break for such institutions and their students, the education expenses for elementary/middle/high schools, colleges, kindergartens and childcare facilities are subject to income tax exemption presently but the tuition for lifelong institutions is not. If the Act on the Promotion of Lifelong Vocational Education Institutions (tentatively) is enacted, tax support method for long-term course students of lifelong institutions will need to be explored.

5) Introduction of certification system to attract more foreign students to lifelong vocational education institutions

A certificationscheme like Australia's CRISCO or EQA of Canada should be brought in to ensure at least the minimum education quality of every foreign student training center. Then, later on, such institutions should be identically managed as domestic agencies while developing the scheme into a comprehensive evaluation system. In addition, the institutions should be made to report to the government personal information of education service providers, details of training programs, training place and method, etc. while receiving inspection on the basic conditions necessary for regular educational process operation for foreign students.

South Korea will be able to ensure quality education by private educational institutions by introducing the certification scheme for lifelong vocational education institutions, issuing certificate; and managing lifelong institutions to maintain a certain quality. By doing so, through sets of criteria for each discipline will need to be structured to make institutions secure the necessary space, facility and equipment. Provide careful inspection so that all of the lifelong educational institutions receive strict certification. Furthermore, regular inspection for every 3~6 months will become also necessary.

6) Use of foreign trainees in national basic sectors

Now, in Korea, if foreign students visit with normal training (D-4) visa permitting Korean language training at Korean universities and colleges, these organizations provide 1-year Korean language program on their own and give a certificate. After the language course, foreign students can change their visa to overseas study (D-2) and graduate from domestic university or college. And then, they can sign an employment agreement with company and change visa to specific activity (E-7) to stay for the long term.

In this regard, the plan is that, if the E-9 employees à E-7 skilled personnel

stay status change requirements are met, foreigners with employment as a non-specialist at national basic sector (E-9) are regarded to pass the public/private joint capacity examination. Business in the basic industrial sectors can continue to hire such foreigners. And the number of foreign technicians graduating from domestic college in basic industrial sectors is expected to increase in the future.

7) Consortium of small private educational institutions

Smaller private training institutions in similar areas can combine together for joint operation. They establish educational organization in a certain place and jointly manage the facility according to each area; education venue facility; facility and equipment; lecturers; general managers; general counsellors; lodging facility, dining facility; convenient facility (cultural facility, tour once a month); performance evaluation; and diploma issuance. This form of consortium of smaller institutions can help minimize their cost and provide full service to foreign students including the complete facility of dormitory.

The general federation of private educational institutions has experienced to run a consortium with smaller technical agencies to efficiently establish and run the Overseas Korean Educational Support Group. It seems desirable that based on this experience, the general federation performs a relevant pilot project first then expand to other institutions later on.

8) Return program after completing course at lifelong vocational education institutions

The employment stay support should be reinforced in each phase from foreign students' entry to employment and to return to home. To this end, it is important for foreigner management-related private/public organizations to build employment stay support network in each phase. The practical purpose of technical training is to supply personnel to smaller firms experiencing manpower shortage. Art and entertainment visa is used to seek a job in the country. In the case of foreigners entering Korea for a job, the ratio of illegal stay is far higher. Thus, returning support programs should be diversified and expanded. Such a program is significant in inducing foreign workers to come back home and preventing illegal remaining in Korea. Another good way is to offer employment at a Korean business in their own home country or assist their business establishment via job training before returning home.

Research into the Current State of University Career Centers in Korea

Jaeho Chung, Yoojeong Nadine Seo, Youngmin Lee

Youth unemployment has become societal and economic issue internationally. In South Korea, the high rate of youth unemployment mainly arises from the high rate of enrollment to higher education. Therefore, enforcing the function and capacity of university career center can be an effective countermeasure against youth unemployment.

In this study, a survey was conducted(101 4-year universities, 80 2-year colleges) and the GOMS(Graduates Occupational Mobility Survey) 2012 data were analysed. In doing so, the current state of university career centers was looked into and ways to improve their current function and capacity were recommended.

The main results of the study are as follows.

Firstly, within a single university, the average number of careers service or related departments was 1.6-1.7 and 2/3 of the universities had only a single such department. The average number of teaching staff exclusive to employment-support was 7. More than half were with tenure and most of them belonged to their academic department.

Secondly, careers service center usually reported to the university headquarters or were under the headquarters. The number of exclusive staff were, on average, 5.8 in 4-year universities and 3.4 in 2-year colleges. Full-time employees were only 2.7 in 4-year universities and 1.7 in 2-year colleges. Prior experience of the exclusive staff were mostly below 5 years (universities 78.9%, colleges 64.7%). Their work was mostly administrative and only small proportion were

managing corporate-related work.

Thirdly, within the internal budget of administrative departments, the budget for careers services were 72.1% for 4-year universities and 53.9% for 2-year colleges. Within the external(governmental) budget, the figures were 20.3% and 34.0% each. Within the full budget of the universities, the proportion of careers services budget were only 1.475% for 4-year universities and 1.490% for 2-year colleges. The proportion was below 1% in more than 2/3 of the universities. The results show that, for careers services, only a small proportion of internal budget is allocated and universities rely heavily on external (governmental) funding.

Fourthly, careers service centers were running more than 70% of the special lectures and seminar, career counselling and job recommendations, setting-up and managing a new programme, supporting resume and personal statement writing and interview skills within the universities. Their major obstacle is the low participation rate of students and excessive administrative work.

Fifthly, 2/3 of the respondents were regularly monitoring their programmes and were taking the feedback into account when reviewing the programmes. 68.3% of the 4-year universities and 75.0% of the 2-year colleges were taking part in managing students' external work experiences and job-related practicals. In 4-year universities, careers services staff usually contacted or visited the partner corporates whereas, in 2-year colleges, it was usually the teaching staff. 62.4% of the 4-year universities and 78.8% of the 2-year colleges conducted post-hoc survey of the students following the work-experience programmes. Regarding the post-hoc survey of the corporate staff, the figures were 50.5% and 53.8% each.

Sixthly, careers service staff considered their programmes to be relatively effective for supporting graduate employment (3.72/5 for 4-year universities, 3.84/5 for 2-year colleges). They also considered the students who participated in the programmes had a increased level of satisfaction, engagement, motivation, competitiveness, organizational adaptability, work-related knowledge and work adaptability. For enforcement of university career service programmes, they asked that the government increase financial support for the universities and participating students and the corporates expand various employment opportunities.

Finally, amongst the careers services, the most utilized services were career-related psychometric tests and career-related curriculum. Even so, the rate was not over 50%. Yet, 2/3 of the participants considered the services to be helpful for their career decision and finding jobs. In other words, although the rate of participation was low, once participated, their satisfaction was high.

Based on the results, a number of practical implementations could be drawn as below.

Firstly, enforcement of manpower with appropriate competency and experiences is vital.

Secondly, high-quality and effective career programmes (e.g., work experience and employment camp) should be provided in order to encourage students' participation.

Thirdly, for the enforcement of manpower and high-quality programme, universities should expand their budget for careers service.

Finally, it is necessary to implement ways to encourage more students to utilize in the universities' careers service and programme.

Analysis of Youth Employment Issue and Policy Suggestion

Ho Young Oh, Young-Sun Ra, Soo Kyoung Lee, Ji Young Ryu

A. Overview

The purpose of this research is to draw policy implication on youth employment through conducting an analysis on recent issues about youth employment, which were discussed in ‘Establishment of competency-based society and vitalization of youth employment forum’, assigned by Ministry of Employment and Labor, and also collecting expert opinion poll. For an analysis, this study is divided into three subtopics as follows.

Firstly, we conduct an in-depth research on the state and underlying causes of college-graduates adult children with parental dependency and draw policy suggestions. Secondly, we study how NCS-based employment is proceeded through which process and how does this newly introduced policy contribute to vitalize college-graduates employment, and then draw policy suggestions. Thirdly, as both the Work-Study Dual System and Youth Internship Program are important youth employment policy, we compare characteristics of two policies’ operations and current situation, and then provide suggestions for improvement of the Korean-style apprenticeship system.

B. The State of College-graduates Adult Children with Parental Dependency and Policy Implication

The purpose of this research is to conduct an in-depth analysis about the phenomenon and underlying causes of young adults’ tendency to depend on their parents, and to draw a policy implication. For an empirical analysis, the 1st year’s raw data of ‘Graduates Occupational Mobility Survey, GOMS_in 6th survey(2011)’ by Korean Employment Information Service is used. The phenomenon of kangaroo tribe is empirically analyzed from three dimensions— 1) young adults’ own will for independence 2) parents’ willingness and financial capacity to support their children 3) socio-economic condition which implies

the employment opportunity of young generation”, and main results from this analysis are summarized as follows.

Firstly, in accordance to the operational concept of kangaroo tribe— who receives financial assistance from parents or does not contribute financially to parents while residing with them—, 51.1% of total target college-graduates population is categorized into kangaroo tribe with a housing dependency characteristic.

Secondly, if young adults make their own career objectives, and start early the employment preparation in accordance to their career plans, the possibility of becoming kangaroo tribe is decreased. It implies the crucial role of career planning during primary, middle and high school years.

Thirdly, in regardless of metropolitan or rural areas, the probability of becoming kangaroo tribe is decreased as children separate from their parents’ residence and move to other regions to search for better opportunities.

Fourthly, the probability becoming kangaroo tribe is decreased as young adults succeed to find a job and engage with a high quality of work. This suggests the possibility that the main cause of kangaroo tribe phenomenon is on the fundamental reason that only few good quality of employment opportunities are provided due to a severe unemployment crisis of young generation.

In order to solve this kangaroo phenomenon, firstly as we take into account the importance of primary, middle and high school education, we need to establish data base (DB) for career education to provide sufficient information, to systemize the information retrieval, and to improve the convenience of user interface significantly.

Secondly, it is necessary to implement active housing support policies to facilitate the mobility of young adults across regions, and at the same time Korean government should provide sufficient information about high quality of employment in rural areas and assist to stabilize housing.

Thirdly, the fundamental solution to resolve this problem is to strengthen competency-based education and expansion of employment assistant service in college. Therefore, a recruit process itself should be reformed toward more competency- based along with college’s effort to enhance college students’ employment capacity.

C. National Competency Standards (NCS)–based job–oriented hiring and suggestions to vitalize youth employment

Korean government implements NCS not only in vocational training system but also in overall recruiting and human resource management in order to create a competency-oriented society. The purpose of this study is to examine the process and effect of NCS-based hiring in public institutions, to analyze its applicability into private sectors and remaining limitations, and lastly to suggest policy implications how this program can vitalize youth employment.

In order to mitigate job mismatch and facilitate employment of young generation, firstly, it is necessary to increase the accessibility of recent college graduates to NCS-based hiring program through adapting well-balanced combination of vocational competency and specific-job skills. Secondly, to improve its applicability across various processes from hiring to HR management, we should provide a customized consulting to corporations. Thirdly, we encourage universities and enterprises to apply this system to their education curriculums and to refresher training. Fourthly, we should standardize consulting of NCS-based hiring through standardization, concentration on DB and online formulation, so various SMEs can utilize NCS consulting in a cheaper and effective way. Lastly, we need to establish the cooperation system among different interest groups to facilitate the vitalization of youth employment practically. For example, there is necessity to create the cooperation system of ‘job activity and recruitment support center in colleges - employment center - Human Resources Development Service of Korea - Korea Research Institute for Vocational Education & Training’.

D. The Work–Study Dual System and Youth Internship Program from the perspective of Youth Employment

Both the Work-Study Dual System and Youth Internship Program are similar in the sense that they both aimed to mitigate youth unemployment and solve the labor shortages of SMEs. However, there is a structural difference in that the Work-Study Dual System is designed and managed for ‘job training’ and Youth Internship Program for ‘labor market’. Their shared interest and goal of youth employment suggest meaningful implication. In this section, we make a comparison evaluation of these two programs from youth employment viewpoints, and in particular, we focus on how to improve the Dual Work program.

International Comparative Analysis regarding Educational Outcomes : Empirical Evidence from PISA and PIAAC

Hangu Ryu, Young-sik Kim

The purpose of this study is to empirically analyze educational outcomes by countries, and to draw policy tasks improving youth and adults' learning competency. For these objectives, this study comparatively analyzed youth and adults' learning competency across countries participated in PISA 2012 and PIAAC. As a result, this study identified Korean adults' learning deficit compared to Korean youth ages, and tried to hypothetically investigate the factors leading to the deficit in the perspective of Korean higher education expansion. Furthermore, this study found that the efficiency level of Korean youth and adult education is relatively low among countries participated in PISA and PIAAC.

Those findings provide useful policy implications for improving Korean youth and adults' learning competency. Firstly, it is necessary to investigate the factors leading to the deficit of adults' learning competency compared to youths' outcomes, and to draw useful policy alternatives for those problems. Secondly, it is recommended to maintain Korean youths' high performance level and reinforce those competencies. Lastly, it is needed to focus the educational efficiency and design new educational system considering not only educational outcome level but efficiency perspective.

Key Words: PISA, PIAAC, Educational Outcomes, International Comparative Analysis, Expansion of Higher Education

The Measures to Reinforce Teachers' Lesson Competence in Accordance with the Introduction of NCS-based Curriculum

Soo-Jeong Lee, In-Yeop Kim

This study aimed to discover the institutional measures to reinforce teachers' lesson competence in accordance with the introduction of NCS-based curriculum. Drawing professional teachers' competence to practice lessons in accordance with the introduction of NCS-based curriculum, and also verifying the awareness and demands of the curriculum through an expert council and Delphi method, the institutional measures were drawn.

In the results of the study, the measures were suggested including ① establishing the standard for teachers' lesson competence in accordance with the introduction of NCS-based curriculum, ② establishing the legal basis for the 'customized training program' in the national level, ③ implementing the NCS-based curriculum & lesson monitoring, and administrative/financial support in the level of local education office, ④ reinforcing the competitiveness through 'the establishment of academic-industrial cooperative system' in the level of school, ⑤ developing/supplying the standardized 'learning module package' in the level of research institution, and ⑥ enhancing the lesson competitiveness focusing on individual teacher and learning community.

In relation to 'the establishment of conditions for the capacity-centered society' and 'the reinforcement of vocational education for the cultivation of professional talent' suggested by Park Geun-hye Administration as the national strategies. such results of this study are expected to have contributions.

Vision and Directions of Capability-oriented Society in Korea

Jisun Chung, Jung Seung Yang, Bom-I Kim

Overview

The purpose of this study is to discuss about the vision and directions of capability-oriented society which is one of the major government policies currently in Korean society. To achieve the purpose literature review of related material, delphi method, analysis of foreign cases are employed.

Theoretical Background

Korean society has been academic ability oriented in the process of economic development intertwined with indigenous education fever, which resulted in highly-educated society. Human Capital Theory by Schultz explains effective value of academic ability in relation with the productivity and return on investment. However, academic-oriented culture has been criticized that it caused excessive competition, burden of high private tutoring costs, unfairness for social mobility, lack of field working capacity demanded by industrial development, rote-memory of existing knowledge, and cramming method of teaching.

On the other hand, Capability Approach by Sen argues that social justice and freedom would be realized by developing individual peculiar ability. Thus the concept of capability-oriented society is defined as righteous society in which equal opportunity and continuous system to develop and realize individual's capability and objective evaluation and screening system are built. Then capability of each person is a source of social and economic values.

Vision of Capability-oriented Society

On the basis of case studies on capability oriented human resources development and management in Europe and US, and the result of delphi method with 14 experts panel, vision of capability-oriented society is discussed. It is a society of justice that provides equal education and training opportunities to develop

and realize individual's capability freely regardless of his/her own economic background, guarantees continuous development of competency, and offers rational employment and reward labor market system.

Also in the society lifelong learning system is arranged for everybody so that people can develop their own capability fit to aptitude and hope during the life time. Naturally people would like to pursue specifications (qualification) related to individual's career and sublate unnecessary showing off specifications.

Directions of Policies for Capability-oriented Society

○ Normalization and Stabilization of School Education and Equal Opportunities of Education and Training

First, career guidance is the first step to develop capability from the early age to grasp one's own aptitude and individuality, instead of following fixed track. Free semester system will help explore future jobs and plan to develop job competency. To continue the effect of the system a regular subject should be installed during the rest of middle school years and in the high school years to continue to enrich the job competencies, or to follow any possible changes going through the process of growth.

Second, vocational education should be strengthened so as to develop proper skills for students. Many general high schools are suggested to be switched to comprehensive high schools which provide both general education curriculum and vocational education curriculum so that students can have chance to explore and decide their own career. Also apprenticeship programs should be implemented in the all vocational high schools to develop practical job field competencies asked by industries.

○ Changes of Labor Market to Capability-oriented Society

First, wage gap should be eradicated according to educational level and background, employment status, or size of the company. A person with high competency should be usually endowed with economic stabilization and social success.

Second, all the enterprises should have responsibilities of education and training for employees. In the labor market flexibility in utilization of manpower should be increase and the gap in working condition and wages be reduced.

Third, criteria of screening and evaluation should be systemized objectively to achieve fairness in the competition.

○ Construction of Lifelong Learning System for lifetime

First, learning leave system for workers should be activated beside reduction of working hours so that they can plan and continue to develop their own capability.

Second, lifelong learning programs for adults and aged should be expanded. Not only individual consulting for continuing education and training, but also tailored programs for individual needs should be expanded.

Third, financial support for lifelong learners should be systemized to facilitate capability building.

○ Publicity Activities to raise the Understanding of Capability-oriented Society

First, to maximize promotion effect on the capability-oriented society public officials, public institutions, and large enterprises should take the head of capability-based employment and evaluation system.

Second, all the nation should recognize that all occupations are equally honorable, and when individual pursue a job fit his/her own aptitudes and interest, capability can be developed best and can enjoy happy life.

Research on Development Plans for Encouraging Participation of Senior Volunteers in Order to Support Career Experience Activity

Seung-Bo Kim, In-Yeop Kim

In this paper, we are going to seek for solutions, on how to solve the lack-of-volunteer issue from utilizing the senior retiree volunteers. Therefore, we established mid-unit terms and set up detailed promotion plan, in which to arrange footstone for long-term policy.

In order to use senior retirees, the least working environments for the volunteers should be established first. Training programs to develop ‘volunteer-mind,’ and the actual capacity for executive ability is essentially required. In addition, foundation of communication system between senior retirees and young students is necessary.

To encourage participation of senior volunteers for supporting career experience activity of students, the Ministry of Education should establish the basic-plan, operation guidelines, and secure budget for nationwide Senior Volunteer system.

Following are the roles that intermediate support organization like KRIVET plays in this program. Providing supports for the Ministry of education, running and establishing management system, building up cooperative relationship with other organizations, and designate the management agency.

Municipal ministry of educations are in charge of recruitments, supports for connecting experience-support-center, administrative supports.

Given the authority to approve and establish the management plan, local governments are in charge of taking care of activities and education system of the Senior Volunteer program.

Key words: free semester program, career experience program, senior, Corporate Social Responsibility

Research Material 2016-18

**KRIVET Research 2015: Abstracts of Research Commissioned
by National Research Council for Economics, Humanities and
Social Sciences(NRCS)**

Date of Publication : June 14, 2016
Published by : Lee, Yong-Soon
Korea Research Institute for Vocational
Education and Training(KRIVET)
Address : 30147 Social Policy Building, Sejong National
Research Complex,
370, Sicheong-daero, Sejong-si, Korea
Tel. : 82-44-415-5000, 5100
Fax. : 82-44-415-5048
Printed by : Bumsinsa, inc. 82-2-720-9787
Date of Registration : 11 June 1998
Registration Number : 16-1681
ISBN : 979-11-339-2066-2 93300

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