Korean Policies on Secondary Vocational Education

Efforts to Overcome Skills Mismatch and Labor Force Shortage

▶ Korea's specialized high schools, which are the main providers of secondary vocational education, significantly contributed to the country's rapid economic development in the past. However, today these schools are facing new challenges to their identity and status as the country's industrial and labor force structures evolve and as demands of parents and students for higher education and elevated status rise. The failure of these schools to adapt to shifting needs of industries and expectations of students have contributed to a labor and skill shortage especially affecting small and medium enterprises (SME). In response to these problems, government, the industries, and institutions of research and education are working together to establish an innovative, demand-oriented and competence-based system of vocational education. This article describes the current trends in the Korean labor market and presents selected policies and initiatives to minimize the existing skills mismatch and labor shortage.

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The Korean Education and Training System

The Korean education system is based on a 6-3-3-4 single track system consisting of elementary school (6 years), junior high school (3 years), high school (3 years), university (4 years) and graduate school. With vocational education beginning at high school level, students choose different school tracks based on their aptitudes and plans for future education and/or career pursuits (see fig. 1). Thus the Elementary and Secondary Education Act (2011) distinguishes three types of high schools in Korea:

- **General high schools**, providing education on diverse subjects and areas and intended for students who plan to pursue higher education with academic focus.
- **Special purpose high schools** specializing in fields such as natural sciences, foreign languages, arts and physical education, as well as offering programs customized and directly linked to the needs of industries in so-called "meister high schools"[1].
- **Specialized (vocational) high schools**, which have traditionally been the principal providers of vocational education at the secondary level in Korea. Offering programs which differ depending on the target industry, these high schools give students the choice of either seeking employment upon graduation, or of continuing their education on the tertiary level.

Current Trends in the Korean Labor Market

DECLINING ATTRACTIVENESS OF SECONDARY VOCATIONAL EDUCATION

For a long time, specialized high schools played a critical role in supplying the skilled workforce necessary for sustai-

1 Meister high schools are a relatively new phenomenon introduced as part of recent policies on vocational education (see below). Unlike the traditional vocational high schools, meister high schools are solely focused on assisting students to enter the labor market upon graduation and to support them with further education opportunities to continuously build their vocational competencies.

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URN: urn:nbn:de:0035-bwp-11330-6

ning the rapid economic growth and development in Korea that had begun in the 1960s. At that time, the Korean economy was largely dependent on labor-intensive industries, and the labor market demanded workers who could perform very simple tasks. However, as Korea entered the new millennium with its economy evolving and industries converging, the labor force structure also evolved. Businesses now need more skilled technicians, also capable of managing the workplace, rather than just someone who takes care of a simple step in the assembly process. This also implies that the demand for cognitive skills is rising while demand for physical and sensory skills is declining (HWANG 2007). As this does not mean, however, that the skills requirements will continue to rise indefinitely (which would limit employment opportunities only to the highly skilled), the mainstay of the industrial workforce will continue to consist of skilled mid-level technical workers – a demand which could be satisfied by the secondary vocational schools.

Yet, throughout these economic changes, specialized high schools have by and large maintained their existing programs, focusing on training students to be efficient in performing simple tasks that require little skill or knowledge. As a result, industries view graduates of vocational high schools as low-skilled workers capable of performing only the simplest tasks rather than as skilled workers (D.-Y. PARK et al. 2010). The fact that many of such simple tasks are now performed by low-wage migrant workers from abroad contributes to the phenomenon that the percentage of specialized high school graduates who find employment upon graduation has declined by 57.4 percent over the past two decades from 76.6 percent in 1990 to 19.2 percent in 2010 (MEST 2011). In addition, a study recently carried out by Statistics Korea shows that while on average a person's occupation and study major matched in 38.7 percent of the young adult population, this was the case for only 18.4 percent of the specialized high school graduates (Statistics Korea 2010).

These factors, among others, precipitate in the enrollment figures in specialized (vocational) high schools, which continue to decline as more and more students choose academically-oriented general education. Since the beginning of the new millennium, enrollment in specialized high schools has consistently dropped by 1 percent per year, and accordingly in ten years the supply of workforce coming out of secondary vocational schools will have been halved compared to the current levels (MEST 2010; see fig. 2).

Figure 1 **Korean Education and Training System**

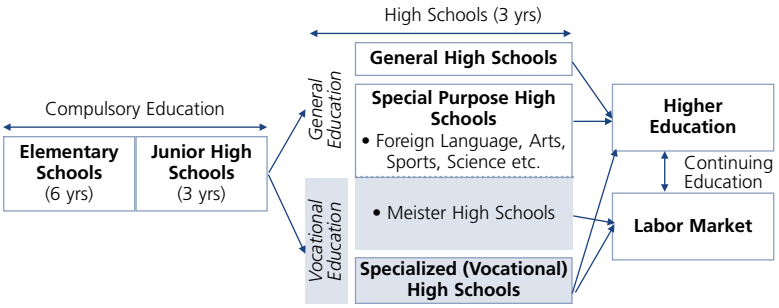
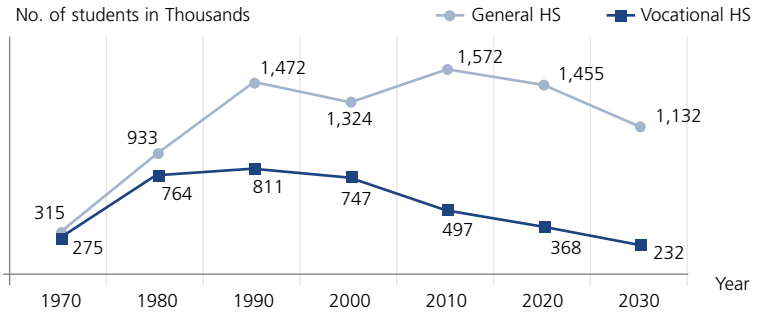


Figure 2 **Estimated Student Enrollments in General and Vocational High Schools**



Source: MEST 2010

THE PROBLEM OF OVER-EDUCATION

The situation described above has, together with a number of different causes – including, among others, the higher expectations of students with regard to their education and career prospects – contributed to the phenomenon of "over-education". Thus, not only does enrollment in specialized high schools decline; in addition, upon graduating most of the students in vocational tracks choose to pursue higher education rather than look for a job. The percentage of students who pursue higher education upon graduation from a specialized high school has steadily risen from 48.1 percent in 2001 to 73.5 percent in 2009 (MEST 2010). About 500,000 students finish higher education each year, only two-thirds of whom are able to obtain a job that matches their educational attainment. The remaining third must either accept a job they are over-qualified for or remain unemployed until they come across a better opportunity.

YOUTH UNEMPLOYMENT AND SKILLS MISMATCH

At the same time, due to a number of factors including jobless growth, the quality of school education, labor market conditions and the social and cultural environment, there exists a relatively high unemployment rate among youths aged 15 to 29. Thus, in 2008 this unemployment rate reached 9.0 percent, which is significantly higher than the overall unemployment rate of 4.1 percent (KOSIS 2011). However, according to a study done by Small and Medium Business Administration (SMBA) in 2008, SMEs, which account for as much as 86 percent of employment in Korea, are at the same time complaining of labor force shortage. This is most pronounced for technical workforce, traditionally supplied by the specialized high schools, the shortage of which is estimated to be around 7.40 percent (SMBA 2008). This combination of labor shortage and youth unemployment

points to the existence of a skills mismatch between the supply system and the demand system of labor force.

One significant aspect of this skills mismatch is the education mismatch, or underskilling, which refers to the disparity between the educational achievement of school graduates and the level of education required in the day to day tasks of the workplace. As already indicated above, companies are concerned that while there is an adequate supply of workers for simple technical and manufacturing jobs, they cannot readily find workers who are more skilled and are capable of dealing with more advanced technical tasks.

Certainly, the combination of workforce shortage plaguing SMEs and high youth unemployment rate is unfortunate for individuals caught in the mismatch. It is also, perhaps more importantly, a source of great loss for the nation as a whole. The wide gap between the demand side and the supply side of the labor market requires fresh thinking about the role of secondary vocational education in Korea. Thus the skills mismatch affecting the specialized high school graduates implies that there should be policies and supporting mechanisms to help students develop competencies employers demand and to find employment in the more advanced technical jobs.

Policies for Overcoming Skills Mismatch and Labor Force Shortage

The trends and developments described above provoke the question "Does Korea no longer need secondary vocational education?" However, when posed with this question, many CEOs and scholars emphasize the need for restructuring secondary vocational education rather than abolishing it entirely. Accordingly, the Korean government has developed and initiated a number of policies and initiatives designed to overcome the existing mismatches (see table 1), examples of which will be presented in the following.

Table 1 **Policies to strengthen secondary vocational education and minimizing skills mismatch**

Basic Plan for Innovating Secondary Vocational Education	**Objective:** Reorganization of specialized high schools system: • Number of specialized high schools to be reduced from 691 in 2010 to 400 by 2015; • Number of meister schools to be increased to 50 by 2015; • Establish an employment promotion model through meister high schools; • Promote a new model of specialized high schools with a focus on school-industry cooperation. **Measures** for supporting the reorganization of the specialized high schools system: • Strengthen educational programs designed to meet industry needs; • Establish a job before education model; • Institutionalize financial support, evaluation and management (e.g. full tuition waiver to all specialized high school students). **(MEST, May 2010)**
Plans for Establishing a Learn while Working System	**Objective:** Establishment of a "learn while working-system" with the aim of promoting technological capabilities, productivity and employment opportunities in the workforce. **Measures:** • Meister high schools: Employment-guaranteed admission, internship programs; • Greater tax incentives for participating companies; • Introduction of a nationally recognized private qualification system in which the learner can accumulate credits towards a qualification; • Promoting corporate universities and customized department programs; • Job search assistance for children of recipients of livelihood benefits; • Expansion of special incumbent worker admission in colleges and universities; • Support for industry initiatives for establishing specialized colleges (partner colleges); • Creation of an industry-led on-the-job-training (OJT) management system. **(MEST and Presidential Council on National Competitiveness, January 2011)**

PROMOTING INNOVATION IN VOCATIONAL EDUCATION THROUGH MEISTER SCHOOLS

In keeping with these policy plans, 21 "meister schools" have been established as of 2010. The schools were founded with the aim of training students to become skilled workers in various industries, including new media contents, energy, machinery, mechatronics, and telecommunications among many others. The meister schools have developed and continue to improve curricula and learning materials based on job analyses for stronger competency focus and relevance to industry needs. The government supports these schools and their students by mandating the school dorm system, offering tuition waivers, and providing training for teachers to strengthen their field experience.

In addition, the Korean government plans to continue reducing the number of specialized high schools from 691 in 2010 to 400 by 2015. The purpose of these efforts is to overhaul the existing specialized high school system so that these schools may serve as a nurturing ground for higher-skilled technical workers. Such a reorientation will allow these schools to meaningfully distinguish themselves from general high schools by providing more relevant vocational education.

COMPETENCY-BASED APPROACHES FOR A DEMAND-ORIENTED VOCATIONAL EDUCATION

As target skills levels for students rise, the content and delivery of vocational education must change in order to keep up with these developments. For this purpose, both curricula and methods of teaching and learning need to incorporate a competency-based approach. With this we are seeing a gradual expansion of political support for these schools and growing efforts to incorporate competencies into their programs that employers require in the real world of work.

To foster this development, Korea has developed the National Competency Standard (NCS) for 276 occupations in 16 industries since 1996. The NCS is a set of standards which define the knowledge, skills and qualities required of workers in specific occupational fields in order to set systematic criteria based on which individuals may be educated and trained (see table 2). The Framework Act on Qualifications stipulates that the Sector Human Resource Development Council (SHRDC) should develop the NCS, which

must then be approved and announced by the government. Nine government ministries are responsible for the development of NCS in 20 broad industry categories, including agriculture and forestry, textiles, chemicals, machinery, electronics, environment, financial services, healthcare, culture, tourism, food processing and human services.

The NCS is expected to enhance the workplace relevance of education, training and qualifications as well as their linkage with each other. So far, it has been applied in designing customized programs for junior colleges[2] and meister schools. By 2015, the NCS will also apply to specialized high schools. Efforts are now underway to reorganize the qualification system in such a way as to allow learners to accumulate credits towards a qualification. The NCS is expected to serve as a critical mechanism for reflecting the real demands of employers in the school curriculum and in educational delivery for students. As employers are increasingly interested in students' core competencies, such as problem-solving, communication, relationship management, and teamwork, the revision of the national curriculum is being discussed to accommodate the rising needs of employers.

Facilitating the Process of Reform through Collaboration

In order for the policies and initiatives described above to unfold their full potential, changes also need to occur in employment culture and the collaboration between involved government and private sector institutions. Thus, in order to increase their attractiveness for high school graduates, companies also need to alter their ways of recognizing and utilizing human resources. For example, employers often base their salary and promotion decisions on the employee's level of educational attainment at the time he or she joined the company, and do not recognize the higher education completed during employment. If such practices can be altered, students of specialized high schools will be more open to taking the employment before education pathway, and employers will find it easier to tap into the pool of talented and skilled workers that these schools have trained. Thus, several relevant ministries are working together on this very issue as they are pursuing joint policies. Whereas in the past the education ministry was responsible for talent development in schools while the labor ministry concerned itself with the issues of employment after school, leading to a lack of policy coordination between the two ministries, the latest efforts are pursued more jointly by the relevant ministries under a comprehensive set of education and employment policies. This collaboration-based approach is both more systematic and effective. Similarly, we are seeing more collaboration in the private sector, with large corporations, SMEs, Sectoral Councils, and trade associations joining hands and working together. As the industries increasingly engage in actual vocational education programs and other initiatives of school-industry partnership, the government is also working to develop new policies to support such private sector participation. ■

Table 2 **Example of NCS Performance Standards**

1. Occupation	**Traditional Construction**
2. Definition	Traditional Construction is the work of building and/or repairing architecture using methods that have been passed down from generations of Korean architects.
3. Performance Standards	
Level	Performance Standards
7	-
6	-
5	Is capable of planning and implementing construction projects based on extensive knowledge in his or her own and related areas of expertise, and performs the overall supervision and management of the construction project.
4	Is capable of fully comprehending the drawings pertaining to his or her area of expertise, and performs the task of managing the construction project.
3	Creates simple drawings pertaining to his or her area of expertise, identifies and estimates the quantity of needed materials, plans and executes the project..
2	Understands the physical properties of materials used in his or her area of expertise, such as woodwork (architectural, furniture), stonemasonry, tiling, plastering, and decorative painting, and performs tasks requiring medium level skills.
1	Performs basic tasks in his or her own area of expertise such as woodwork (architectural, furniture), stonemasonry, tiling, plastering, and decorative painting and assists traditional construction workers with a higher degree of skills.

2 *At the tertiary level, vocational education is provided by two- or three-year junior colleges, offering specialized courses for different target industries, as well as industrial colleges and corporate colleges for learners who are already employed.*

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