

The Job Classification System and Certification Lists of Construction Industry - Focused on Construction Technicians

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Abstract

This study examines that the job classification system and certification lists of construction industry focused on construction technicians. Here, construction te-

chnicians mean the ones who work for the construction industry after graduating from the construction department of SVHS(Specialized Vocational High Schools). This study classifies construction-related jobs according to KECO(Korean Employment Classification of Occupations) and KSCO(Korean Standard Classification of Occupations). Jobs of construction technicians are classified into 4 groups which are technicians for building construction, technicians for building finishing, plumbers and civil engineering and mining technicians. These groups are sub-classified into 21 jobs which include steel structure processing and building technicians, plasterers, plumbers, mineral and quarrying workers and stone cutting workers. In addition, there are 28 kinds of certificates that SVHS graduates from construction department can acquire including 14 construction fields, 12 civil engineering fields, 1 landscaping field, and 1 construction plumbing field.

Keywords: Construction Technicians, SVHS, KECO, KSCO, Certificates

1 Introduction

As a job training education system in South Korea, SVHS teach and train students who can work for various economy sections. The results of interviewing construction department students from SVHS indicate that they do not have enough information on construction industry and construction-related jobs when they enter the high school. Also, the previous studies brought up the issue that it is necessary to provide students with information on construction industry [1-3]. Therefore, this study aims at providing construction technicians with information on a job classification related to construction fields.

2 Methodology

This study investigates literatures to review a job classification system of the construction field. It classifies jobs based on a web site of Korean Occupation Dictionary and literature researches. We extracted the job related to construction out of KECO classifications comparing KSCO classification system numbers. And we arranged the certification lists, which is focused on construction technicians based on level of job skill by KSCO.

3 Results

KSCO classifies jobs based on duty and professional abilities. Here, a professional ability does not mean the difference of expertness. This classification

is used as a job unit standard of various social, economic statistical surveys, standards of payroll and bonus of each job, and information of employment and job hunting [4].

<Table 1> indicates the KSCO system and classification numbers. The table also includes levels of necessary skills for jobs. The jobs are classified into 10 sections, 52 divisions, 149 groups, 426 classes, and 1,206 sub-classes. Construction-related jobs belong to category 7 of KSCO except division number 141 of KECO seen at <Table 2>, which indicates technicians of construction and civil engineering. This means that the construction job-related technicians need level 2 job skills (See <Table 1>). According to KSCO standard, Level 2 job skill means that workers can read, write, calculate and communicate with others proficiently. This needs completion of regular secondary education systems and more (ISCED level 2, level 3) or needs training or job experience equivalent to this education level. To reach these levels of jobs, workers need professional job training and practices. The training and practice periods can complement regular training, or substitute regular training partially or entirely. Some jobs require additional education (ISCED level 4) or training in job training organizations after graduation of secondary schools [5].

Table 1. KSCO system and classification numbers, levels of necessary skills for jobs

Sections	Level of Job Skill	Division	Groups	Classes	Sub-Classes
1. Manager	Level 4 or Level 3 Job Skill necessary	5	15	24	77
2. Professionals and Related ones	Level 4 or Level 3 Job Skill necessary	8	41	153	445
3. Office work	Level 2 Job Skill necessary	4	9	26	57
4. Service	Level 2 Job Skill necessary	4	10	33	73
5. Sales	Level 2 Job Skill necessary	3	4	13	38
6. Agriculture and Fishery Skilled worker	Level 2 Job Skill necessary	3	5	12	29
7. Technicians and related workers	Level 2 Job Skill necessary	9	20	73	201
8. Devices and machine operators and their assembling worker	Level 2 Job Skill necessary	9	31	65	235
9. Low-level laborers	Level 2 Job Skill necessary	6	12	24	48
A. Soldiers	No Job Skill necessary	1	2	3	3
10		52	149	426	1,206

Source: 2012 Korean Dictionary of Occupations [6]

<Figure 1> shows KSCO classification number means section of jobs. The first number of 4th one is classification number of section of jobs. For example,

first number is 1 means manager section of jobs.

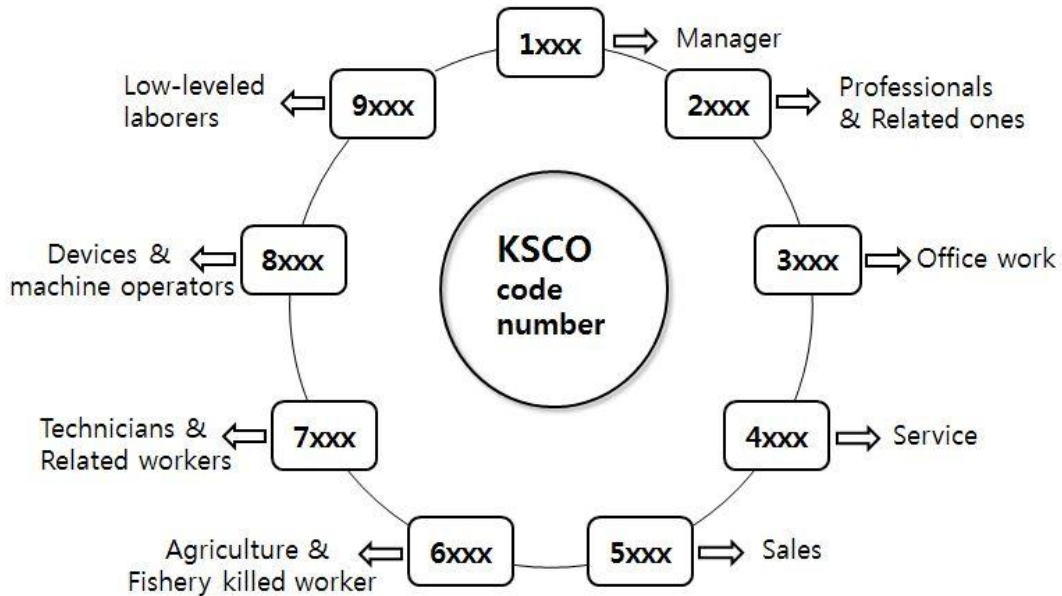


Figure 1. KSCO classification number means sections of jobs

<Table 2> indicates Korean job classifications based on the Korean Occupation Dictionary. Considering KSCO(See <Table 1>), the jobs that construction technicians among SVHS graduates can be involved in 4 groups(142 architecture technicians, 143 construction-plastering technicians, 144 plumbers and 146 civil engineering and mining-related workers). These 4 groups can be divided into 21 classes including 8 building structure technicians(1421 steel structure processing and building workers, 1422 light gauge steel construction workers, 1423 reinforcing technicians, 1424 concrete technicians, 1425 construction masons, 1426 construction carpenters, 1427 mason and stone laying workers, 1429 other technicians related to construction), 7 construction finishing technicians(1431 plasterers, 1432 waterproofing workers, 1433 heat insulation workers, 1434 flooring workers, 1435 wallpapering and glass bonding workers, 1436 construction coating workers, 1439 other technicians related to construction finishing), 3 plumbing fields(1441 construction plumbers, 1442 Industrial plumbers, 1449 plumbers of other fields), 3 civil engineering and mining-related field(1461 mineral, quarrying, stone cutting workers, 1462 railroad construction and maintenance technicians, 1469 other mining and civil engineering workers).

Table 2. Number 14 related to construction out of 24 classifications of KECO.

Division	Groups	Classes	KSCO
14 Constr- u tion related job	141 Construction and civil engineering engineers and examiners	1411 architects, architectural engineers	2311
		1412 civil engineers	2312
		1413 landscape architects	2313
		1414 city and transportation design professionals	2314
		1415 surveying and geographic information professionals	2315
		1416 construction material examiners	2316
	142 Architecture technicians	1421 steel structure processing and building workers	7711
		1422 light gauge steel construction workers	7712
		1423 reinforcement technicians	7721
		1424 concrete technicians	7722
		1425 construction masons	7723
		1426 construction carpenters	7724
		1427 mason and stone laying workers	7725
	143 Construction-plastering technicians	1429 other technicians related to construction	7729
		1431 plasterers	7731
		1432 waterproofing workers	7732
		1433 heat insulation workers	7733
		1434 flooring workers	7734
		1435 wallpapering and glass bonding workers	7735
	144 Plumbers	1436 construction coating workers	7736
		1439 other technicians related to construction finishing	7739
		1441 construction plumbers	7921
	145 Construction and mining machine operators	1442 industrial plumbers	7922
		1449 plumbers of other fields	7929
1450 construction and mining machinery operators		8750	
146 Civil engineering and mining-related workers	1461 mineral, quarrying, stone cutting workers	7741	
	1462 railroad construction and maintenance workers	7742	
	1469 other mining and civil engineering workers	7749	
147 Low-leveled workers of construction and mining industry	1470 low-leveled workers of construction and mining industry	9100	

Source: 2012 Korean Dictionary of Occupations

<Figure 2> shows the part of technician certificates that high school students can acquire. They can acquire certificates in construction, civil engineering, landscaping and construction plumbing on construction industry.

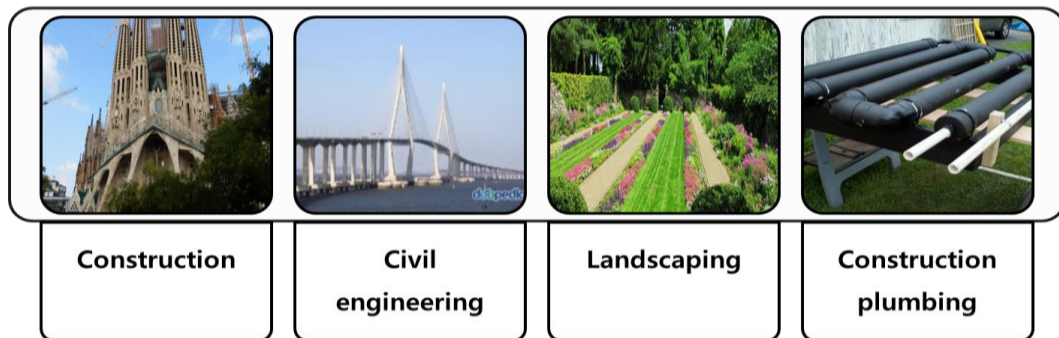


Figure 2. The part of technician certificates that high school students can achieve on construction industry.

<Table 3> indicates the national job certificate list that high school students can acquire. As seen below, the construction technician certificates that high school graduates can get are total 40: 14 construction fields including molding technicians, 12 civil engineering fields including a construction material tester, 1 landscaping field including landscapers, 1 plumbing fields including plumbers, and 12 construction machinery operation fields including craftsman loading equipment operators. The construction machinery operation field needs level 1 job skill so the certificates for the construction technicians are 28 except 12 which are related to construction machinery operation job.

Table 3. Technician certificates that high school students can achieve: construction industry

141. construction	142. civil engineering	143. landscaping	144. city-trans portation	145. construction plumbing	146. construction machinery operation
Molding	Construction material test	landscaping		plumbing	Loading equipment operator
Coating	Plotting				Forklift truck operator
carpentry	Maintenance of way				Excavator operator
Wallpapering	Mason				Crane operator
Plastering	Diving				Lead operator
Water proofing	Computerized civil engineering design				Roller operator
Scaffolding	Mapping				Motor grader operator
Interior construction	Surveying				Bulldozer operator
Warm water floor heating	Surveying				Asphalt finisher operator
Glass construction	Concrete				Overhead crane operator
Computerized construction design	Aerial photo				Container crane operator
Masonry	Passage marking				Town crane operator
Reinforcement tile					
14	12	1	None	1	12

Source: 2012 Korean Dictionary of Occupations

4 Conclusions

Among 24 divisions of KECO, the ones related to construction industry are 7 groups (technicians and examiners for building construction and civil engineering, technicians for building structure, finishing technicians, plumbers and civil engineering and mining technicians, low-leveled laborers of construction and mining industry). By reviewing KSCO, construction technician jobs include those of technicians for building structure, technicians for building finishing, plumbers and civil engineering and mining technicians. These 4 groups can be divided into 21 classes including 8 building structure technicians, 7 construction finishing technicians, 3 plumbing fields, 3 civil engineering and mining-related field. Also, there are 28 kinds of certificates that SVHS graduates from construction department can acquire including 14 construction fields, 12 civil engineering fields, 1 landscaping field, and 1 construction plumbing field.

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