Technical and Vocational Education and Training in Korea
Technical and Vocational Education and Training in Korea
FOREWORD

The Republic of Korea’s rapid and high economic growth in the past, was made possible through continuous technical and vocational education and training (TVET) to train highly qualified manpower. However, we are at a standstill in developing human resources adaptable to the new environment of a knowledge-based society.

In order to meet the challenges, we plan to educate and train our people with the most updated knowledge and skills corresponding to the new surroundings. As a result, they may be able to make more profit in every sector that they are working at and to contribute to the knowledge-based society.

The aim of this report is to introduce the TVET framework in Korea, how it has development and been implemented and the key policy areas it covers. It is hoped that this information will contribute to the promotion of international cooperation for the development of human resources and the exchange of experiences in TVET.

For your information, the opinions expressed in this report are those of the author and do not necessarily reflect the position of KRIVET in this regard. This book was prepared by Dr. Young-Hyun Lee, research fellow of KRIVET.

Moo-sub Kang, Ph.D.
President, KRIVET
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I. Country Profile and Socio-Economic Background

1. Profile of Korea

Located east of the Asian Continent, the Republic of Korea is a democratic state with five thousand years of history. Korea belongs to the north temperate zone; however, its climatic differences in temperature between summer and winter are affected by the continent and seas surrounding the Korean peninsula. Summer lasts from June to August, the monsoonal climate brings 50-60 percent of the annual precipitation of about 1,200 mm. Its winter, from December to February is generally cold and dry with occasional heavy snow and northwesterly winds. In between these extremes, the spring is mild and the autumn is cool and serene with clear, balmy skies.

The Korean peninsula shares a border with China and Russia in the north across the Amnokkang and Tumangang Rivers. It faces Japan to the east separated by the East Sea and China to the west separated by the Yellow Sea. Approximately 70 percent of the peninsula is mountainous, particularly in the north and along the eastern coast of the Peninsula. The Korean peninsula as a whole has a total landmass of about 220 thousands square kilometers (85,000 square miles), which is a little smaller than Great Britain. The peninsula is divided into the Republic of Korea in the South and North Korea in the north by the demilitarized zone at roughly 38° parallel Latitude north of equator. The Republic of Korea covers 45 percent of the Korean peninsular with a total land area of about 99 thousands square kilometers.

According to the written history of Korea, the earliest state was founded by Tangun, the mythical progenitor of the Korean people. This tribal state, called Ancient Chosun, was terminated around 100 B.C. with
the advent of the “Three Kingdoms.” The Three Kingdoms were followed by Unified Shilla in the south in the 7th century and Parhae which succeeded Koguryo in the north. Thus, Korea entered a brief period of “Two Kingdoms” which ended with the fall of Parhae. In the 10th century, the Koryo Dynasty reigned on the Korean peninsula, followed by the Chosun Dynasty in the 14th century, which continued up to the Republic of Korea, inaugurated in 1948 after 35 years of interruption by Japanese colonial rule.

Korea is a constitutional republic. The executive, the legislative, and the judiciary constitute the three branches of government under the President. The legislature is unicameral and the judiciary is composed of the lower court, the court of appeal and the Supreme Court. The nation is divided into 16 administrative units, which are seven metropolitan cities and nine provinces.

Ethnically, Koreans belong to the Mongolian race and they are a homogeneous race speaking one language. In addition, they possess their own culture and customs which differ from those of their nearest neighbors, China and Japan. They also have their own unique Korean phonetic alphabet, the Han-Gul, which is regarded as one of the most original and yet the most scientific of the various phonetic writing systems.

The Republic of Korea has an estimated population of 46.8 million with an annual growth rate of 0.92 percent in 1999. About 74.8% of the total population lives in urban area. The population density is one of the highest, accommodating 471 persons per square kilometer.

Approximately 49.9% of Korean adhered to one type of religion or another, Buddhists forming the largest group with 48.9%, Christians representing 48.2% (Protestant: 36.5%, Catholic: 11.7%) and Confucians representing 0.8% (National Statistical Office, 1999).


2. Economic Development

Until the mid-20th century, Korea remained an agrarian society. In the absence of natural resources, Korea launched an ambitious five-year economic development program series in 1962. The successful implementation of the economic development programs brought Korea to the threshold of modern industrialization. Lacking natural resources, Korea's rapid economic growth owes much to abundant and well-trained labor.

Over the past three decades, the Korean economy developed at a remarkably fast rate and the country came to be known as one of the Asian "tigers." This high-growth period was characterized by substantial increases in investment in physical and human capital, rapidly rising real wages and declining income inequalities. However, the economy was hit heavily in 1997 by the financial crisis that swept through much of Asia. The crisis brought in its wake dramatic labor and social consequences. However, it did not last long: by the second half of 1999 the economy was already recovering strongly.

From 1963 to 1978, real Gross National Product (GNP) rose at an annual rate of nearly 10 percent and per capita GNP which reached US$ 100 for the first time in 1963 rose to US$ 8,581 in 1999. The growth resulted in a 85-fold increase in per capita GNP in the past 36 years.

The share in GDP by industrial origin (Table 1) shows a significant decrease in agriculture, forestry and fisheries. The agricultural sector accounted for 5.7 percent in 1997, having decreased from 44 percent in 1962. The share of manufacturing rose to 26.0 percent from 12.4 percent during the period of 1962–1997. The share of the service sector (including finance, insurance, real estate and business service) has risen from 34.1 percent to 51.3 percent during the same period.
Table 1. Shares in GDP by Industrial Origin, 1962-1997
(at current prices, %)

<table>
<thead>
<tr>
<th>Classification</th>
<th>1962</th>
<th>1980</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Agriculture, forestry &amp; fisheries</td>
<td>44.0</td>
<td>20.3</td>
<td>5.7</td>
</tr>
<tr>
<td>Manufacturing &amp; mining</td>
<td>12.4</td>
<td>16.8</td>
<td>26.0</td>
</tr>
<tr>
<td>Social overhead and construction</td>
<td>9.5</td>
<td>16.8</td>
<td>17.0</td>
</tr>
<tr>
<td>Other services</td>
<td>34.1</td>
<td>35.4</td>
<td>51.3</td>
</tr>
</tbody>
</table>


3. The Labor Market

In 1999, there were about 22 million people in the labor market (Table 2). The number denotes approximately a 30 percent increase above the 1985 level. Labor force participation rates for males and females are 75.6 percent and 49.5 percent, respectively.

Table 2. Changes in Employment 1988-1999
(unit: 1,000 persons, %)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic growth rate</td>
<td>11.3</td>
<td>5.1</td>
<td>7.1</td>
<td>5.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Working population</td>
<td>29,602</td>
<td>31,898</td>
<td>34,182</td>
<td>34,746</td>
<td>35,765</td>
</tr>
<tr>
<td>Labor force</td>
<td>17,302</td>
<td>19,426</td>
<td>21,188</td>
<td>21,604</td>
<td>21,634</td>
</tr>
<tr>
<td>(participation rate)</td>
<td>58.5</td>
<td>60.9</td>
<td>62.0</td>
<td>62.2</td>
<td>60.5</td>
</tr>
<tr>
<td>Employed</td>
<td>16,870</td>
<td>18,961</td>
<td>20,764</td>
<td>21,048</td>
<td>20,281</td>
</tr>
<tr>
<td>Unemployed</td>
<td>435</td>
<td>465</td>
<td>426</td>
<td>556</td>
<td>1,353</td>
</tr>
<tr>
<td>(unemployment rate)</td>
<td>2.5</td>
<td>2.4</td>
<td>2.0</td>
<td>2.6</td>
<td>6.8</td>
</tr>
<tr>
<td>Out of labor force</td>
<td>12,298</td>
<td>12,472</td>
<td>12,994</td>
<td>13,132</td>
<td>14,131</td>
</tr>
</tbody>
</table>

A large proportion of Koreans are employed in "non-regular" jobs of short duration. In 1999, more than half of total employees had either a temporary or a daily contract, and the proportion of employees with a "regular" contract was therefore less than half. A detailed analysis of employment by status suggests a degree of labor market duality by gender, age and education level, with younger and higher-educated men performing most regular jobs. The incidence of non-regular work is high among women, older workers and the lower-educated. The number of workers holding a permanent job was the lowest in Korea among OECD countries in 1998, followed by Turkey. In 1999, 30 percent of Korean workers had a regular job, less than half the share of regular employment in most other OECD countries.

The service sector absorbs the largest proportion of the labor force. In 1999 about 69.0 percent of the labor force was employed in service. The share of agriculture, forestry & fisheries continued to decrease from 50.4 percent in 1970 to 11.6 percent in 1999. The manufacturing sector contributed 19.9 percent of the total employment in the country (Table 3).

Table 3. Labor Force by Industry

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed persons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agri, Forestry &amp; Fisheries</td>
<td></td>
<td>50.4</td>
<td>34.2</td>
<td>23.6</td>
<td>16.5</td>
<td>11.3</td>
<td>11.6</td>
</tr>
<tr>
<td>Mining and Manufacturing</td>
<td></td>
<td>14.3</td>
<td>21.3</td>
<td>25.9</td>
<td>27.2</td>
<td>21.4</td>
<td>19.9</td>
</tr>
<tr>
<td>(manufacturing)</td>
<td></td>
<td>(13.2)</td>
<td>(20.4)</td>
<td>(24.7)</td>
<td>(26.8)</td>
<td>(19)</td>
<td>(19.8)</td>
</tr>
<tr>
<td>Service &amp; Others</td>
<td></td>
<td>35.3</td>
<td>44.5</td>
<td>50.5</td>
<td>56.3</td>
<td>67.3</td>
<td>69.0</td>
</tr>
</tbody>
</table>

Note: Other services include electricity, gas, water supply, transportation, warehouse service, communications, banking, insurance, real estates, business service and public, private and social services.

About 19.1 percent of the labor force completed middle school, 40.9 percent completed high school, and 18.4 percent completed junior college, 4-year college or university. This high educational level of the labor force supports the claim that trained manpower, together with higher professional manpower, contributes to improve productivity and enhances the industrial structure in Korea. The educational status of the labor force is shown in Table 4.

**Table 4. Labor Force by Educational Attainment** (unit: %)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Primary school graduates and under</td>
<td>38</td>
<td>34</td>
<td>29</td>
<td>24</td>
<td>23.7</td>
<td>21.6</td>
</tr>
<tr>
<td>Middle school graduates and less</td>
<td>21</td>
<td>21</td>
<td>20</td>
<td>17</td>
<td>20.4</td>
<td>19.1</td>
</tr>
<tr>
<td>High school graduates</td>
<td>31</td>
<td>34</td>
<td>38</td>
<td>42</td>
<td>40.5</td>
<td>40.9</td>
</tr>
<tr>
<td>Junior college, college and university graduates</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>17</td>
<td>15.3</td>
<td>18.4</td>
</tr>
</tbody>
</table>


**Unemployment.** With its high economic performance, Korea has succeeded in absorbing the massive new labor force which entered the market. Korea has experienced very low unemployment rates in spite of its rapid economic growth.

The financial crisis which started at the end of 1997 brought the growth process to a sudden, unexpected halt. The crisis forced the government to agree to a rescue package with the IMF. Unemployment rate rocketed from 2.5 percent to a peak of 8.5 percent in early 1999, and
more than one million Koreans were thrown into poverty. The difficult economic and social situation forced the authorities to implement quickly a wide range of macroeconomic and structural reforms, notably in the areas of labor market policies and social safety-nets. In response to these reforms, the economy has now turned the corner, permitting the unemployment rate to fall rapidly to about 5 percent, and short-term prospects point to a continuation of the social recovery.
II. Technical and Vocational Education and Training (TVET)

1. Education System

1) School Ladder System

Korea uses a school "ladder" following a similar track of 6-3-3-4, providing six years of compulsory primary education, three years of middle school, and three of high school, followed by two or four more years in colleges and universities.

The provision of Education Law, which pertain to the educational system, read as follows: "All citizens have the right to receive education according to their ability; all should receive at least primary education and such education as may be prescribed by law; compulsory education is guaranteed in such manners as shall be prescribed by law; the state is responsible for promoting lifelong education; and basic matters related to the management of systems of school education and lifelong education, financing of schools and the status of teachers are prescribed by law."

Education Law (article 81) stipulates that the following schools be established; (a) primary school, middle school, high school and college and university; (b) university of education and college of education; (c) junior college, air and correspondence university and polytechnic university; (d) trade school and trade high school; (e) civic school and civic high school; (f) special school; (g) kindergarten; and (h) miscellaneous schools. Among these, the schools in the first category constitute the backbone of the education system. Figure 1 shows details of the education system in Korea.

The academic year consists of two semesters; the first semester begins on 1 March and ends on 31st August. The second semester spans
1 September to the end of February. Universities, colleges of education and junior colleges are operated within two or five semesters according to school regulations.

2) Pre-school Education

Pre-school education is provided by kindergartens for children aged 3-5. It aims at providing an appropriate environment for the social and verbal development as well as cognitive, affective and psychomotor ability of the children enrolled. There were 8,790 kindergartens with an enrollment of 534,166 throughout the country in 1999.

The curriculum covers the five areas of physical, social, expressive, linguistic and inquisitive life. In its infancy, pre-school education has mostly been initiated by religious, social, and private organizations. As a result, the enrollment rate has generally been low.

3) Primary Education

The 6 years of primary school education are compulsory and free for children from 6-11 years of age. Its goal is to provide basic skills and general education essential for understanding Korean culture and civic life in modern society. Nearly 100 percent of those eligible attend primary schools. There were 3,935,537 students enrolled in 5,544 schools in 1999.

4) Secondary Education

- Middle School Education

Middle school education is offered for students aged 12-15 with a duration of three years. All applicants from primary schools are accepted and allocated by lottery to schools within their residential districts.
Regular activities are divided into required and elective subjects. As of 1999, 99.9 percent of all primary school graduates moved on to middle schools. Middle school education is free only in rural areas, and in the near future it is to become compulsory and free for all.

**High School Education**

High school education aims at providing advanced general and specific education on the basis of middle school education. High schools are classified into academic, vocational, and other high schools - foreign language, art & athletic, and science high schools. There were a total of 1,942 high schools, of which 762 were vocational high schools in 1999. High schools, both general and vocational, enroll 90.6 percent of their age group.

Students in academic high schools, where advanced general education is practiced, select a major in the second year from the areas of humanities and social sciences, natural sciences, and vocational education. Their selections are based on the students’ aptitude and interest that, in turn, provide a link with the school courses and their future careers. The majority of students opt to spend the first two years as preparation for university application. Students may transfer to the vocational track at the beginning of the third grade.

Vocational high schools aim at providing advanced general education as well as vocational education in the fields of agriculture, technology, commerce, and marine & fisheries. Beginning in the 1980’s, vocational high schools offered many benefits and emphasized diverse field education to promote a skilled labor force to cope with the rapid changes in industry and society. In addition, foreign language, science, art & athletic high schools have been implemented. With strong governmental support, these schools aim at identifying the gifted at an early age and developing their potential in these specialties to the maximum level.
5) Higher Education

The higher educational institutions are divided into 4 categories: colleges and universities; universities of education and colleges of education; junior colleges, the Air & Correspondence University, polytechnic universities\(^1\) and other schools (including theological colleges and seminaries). Most higher educational institutions are under the supervision of the Ministry of Education. The Ministry of Education has control over such matters as student quotas, qualification of teaching staff, curriculum and degree requirements. About 63.7 percent of this age group enrolled in higher educational institutions in 1999.

- **Colleges and Universities**

Higher education aims at teaching and studying fundamental academic theories and their various applications as necessary for the progress of the society and the global community, thus fostering personalities capable of leadership. The period of study for college education is 4 or 6 years.

The unit for measuring completion of each course in universities is termed a 'credit.' Each university controls the requirements for completion of each credit, the minimum credits necessary for graduation, the standard credits and maximum credits required to be taken each semester, the method to obtain and limits on special credit, and credits required for completion of preparatory courses on the basis of school regulations.

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\(^1\) Open university was renamed polytechnic university based on the Higher Education Law which came into operation in March, 1998. However, open universities are named in various ways depending on the mission and objectives of the university.
## Table 5. Current Status of Schools in Korea

<table>
<thead>
<tr>
<th>Classification</th>
<th>School Total</th>
<th>National &amp; Private</th>
<th>Classes &amp; Dept.</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Total</td>
<td>19,579 (807)</td>
<td>13,045 (788)</td>
<td>6,533 (19)</td>
<td>252,669</td>
<td>11,837,424</td>
</tr>
<tr>
<td>Kindergarten</td>
<td>8,790</td>
<td>4,351</td>
<td>4,439</td>
<td>19,954</td>
<td>534,166</td>
</tr>
<tr>
<td>Primary School</td>
<td>5,544 (739)</td>
<td>5,468 (739)</td>
<td>76</td>
<td>111,184</td>
<td>3,935,537</td>
</tr>
<tr>
<td>Middle School</td>
<td>2,741 (48)</td>
<td>2,494 (48)</td>
<td>247</td>
<td>48,713</td>
<td>1,899,956</td>
</tr>
<tr>
<td>Academic High School</td>
<td>1,181</td>
<td>995</td>
<td>186</td>
<td>29,642</td>
<td>1,399,389</td>
</tr>
<tr>
<td>Vocational High School</td>
<td>762</td>
<td>443</td>
<td>109</td>
<td>19,116</td>
<td>851,751</td>
</tr>
<tr>
<td>Special School</td>
<td>123</td>
<td>42</td>
<td>81</td>
<td>2,421</td>
<td>23,490</td>
</tr>
<tr>
<td>Civic School</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>150</td>
</tr>
<tr>
<td>Civic High School</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>18</td>
<td>511</td>
</tr>
<tr>
<td>Trade High School</td>
<td>16</td>
<td>-</td>
<td>16</td>
<td>172</td>
<td>8,399</td>
</tr>
<tr>
<td>Miscellaneous School (MS)</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td>88</td>
<td>4,287</td>
</tr>
<tr>
<td>Miscellaneous School (HS)</td>
<td>11</td>
<td>8</td>
<td>3</td>
<td>108</td>
<td>3,722</td>
</tr>
<tr>
<td>Air &amp; Correspondence HS</td>
<td>41</td>
<td>41</td>
<td>-</td>
<td>334</td>
<td>13,611</td>
</tr>
<tr>
<td>Junior College</td>
<td>161</td>
<td>16</td>
<td>145</td>
<td>4,464</td>
<td>859,547</td>
</tr>
<tr>
<td>Teachers College</td>
<td>11</td>
<td>11</td>
<td>-</td>
<td>14</td>
<td>21,323</td>
</tr>
<tr>
<td>College &amp; University</td>
<td>158 (19)</td>
<td>26 (1)</td>
<td>132 (18)</td>
<td>8,854</td>
<td>1,587,657</td>
</tr>
<tr>
<td>Air &amp; Correspondence U</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>18</td>
<td>316,365</td>
</tr>
<tr>
<td>Polytechnic University</td>
<td>19</td>
<td>8</td>
<td>11</td>
<td>908</td>
<td>158,444</td>
</tr>
<tr>
<td>Graduate School</td>
<td>&lt;676&gt;</td>
<td>&lt;135&gt;</td>
<td>&lt;541&gt;</td>
<td>6,236</td>
<td>204,773</td>
</tr>
<tr>
<td>Open Graduate School</td>
<td>&lt;0&gt;</td>
<td>&lt;0&gt;</td>
<td>&lt;0&gt;</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Miscellaneous School (CL)</td>
<td>3</td>
<td>-</td>
<td>3</td>
<td>72</td>
<td>4,317</td>
</tr>
<tr>
<td>Miscellaneous School (JC)</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>19</td>
<td>1,809</td>
</tr>
</tbody>
</table>

Note: 1. The figures in ( ) indicate the number of branch schools, and are not included in the Total number of schools.
2. The figures in < > are not included in the total number of school.
3. The status of faculty members of graduate schools is included in status on those of college and university.
4. The number of students on leave of absence is included (i.e., number of junior college students (859,847) includes students on leave of absence (284,318).

Universities of Education and Colleges of Education

The universities of education train primary school teachers and the university's colleges of education train secondary school teachers. All the universities of education are national. The course is 4 years; for practice there are attached schools, and the students should complete 4 weeks student teaching practice. During this training, they watch and teach primary school classes and also do experience some administrative work. The curriculum of the universities of education is divided into liberal arts and major fields and the major fields are subdivided into teaching subjects and general subjects. The general subjects are composed of the subjects which are related to primary education. From the general subjects the students are supposed to get broad basic knowledge as primary school teachers. The teaching subjects are designed to convey the concepts of national education and teaching methods. There are also advanced courses in specialized fields; students are required to take 21 credits in these subjects.

The courses offered by the colleges of education of general universities are generally composed of liberal arts, major fields, and general minor subjects. For the specialization of the prospective teachers they take required subjects and complete the required teacher training.
Junior Vocational Colleges

Junior colleges are two- or three-year post-secondary programs and are the direct result of the increasing demand for technical manpower attendant on rapid industrialization. They are a merger of three years of secondary professional high schools and two years of post-secondary junior colleges. Since their establishment in 1979, the number of junior vocational colleges has grown to 161 as of 1999 with an enrollment of 859,547 (including students on leave of absence).

The purpose of junior college education is to produce middle-level technicians equipped with a solid base of theories and skills. Their specialized courses are grouped into technical, agricultural, nursing, fishery, health, commercial and business, home economics, arts and athletics, and so on with two or three year programs depending on the courses. The nursing, clinical pathology, physical cure, radiation, fishing, navigation and engine programs require three years of education. The communication program is the only one requiring two and a half years of study and the rest require two years of education.

6) Special Education

Special education offers pre-school, primary and secondary education to those with visual, auditory, mental, physical, emotional or linguistic impairment, and so on. There are 123 special schools with a total enrollment of 23,490 severely handicapped children. In the case of lesser impediments, 25,300 children are given education in special classes for the disabled opened in regular schools. Special education teachers are recruited through a qualifying examination for special education given by the four nationals and ten private colleges, and the five of the national and public graduate school which are qualified to train special education teachers, and none of private universities.
2. Technical and Vocational Aspects of General Education

1) Primary School Programs

The formal curricula for primary education are made up of eight principal subjects: moral education, Korean language, social studies, arithmetic, science, physical education, music, and fine arts, and practical arts. The curricula also include extra-curricula activities and optional courses. Practical arts which is a required course for students of grade 4-6, provides students with opportunities to use hand tools, simple machines and various other types of materials.

Even though the instruction the students receive in primary schools seldom has an explicit vocational orientation, there are many activities in the program that offer possibilities and for the development of vocational awareness and understanding.

Another important aspect of vocational education is attitude and work ethics, including respect for honest labor, and hands-on work. Korean social ethics emphasize the dignity of labor and the individual's self-worth. Thus, the primary school experience can contribute to the development of wholesome attitudes toward work.

The greatest contribution of our primary schools in developing vocational skills undoubtedly will be found in areas which are more general in nature. Competency and skill in reading, speaking, writing and computing, for example, are as basic to most vocations as they are in the primary school programs. As primary school children develop abilities to communicate their ideas, make sound judgements, analyze relationships between separate elements, and predict the consequences of specific actions, they are preparing themselves for vocational competency. In most vocations, such abilities are far more valuable than specific manipulative skills.
Interpersonal skills is another area where primary schools can make a substantial contribution to vocational competency. It has often been demonstrated that more people fail in their jobs because of an inability to get along with other people rather than for the lack of ability to perform the specific tasks assigned to them. Teachers accomplish the most when they are aware of the importance of such a need.

2) Middle School Programs

The middle school curriculum is composed of 11 required subjects, elective subjects, and extracurricular activities. Required subjects include vocational subjects to establish a close relationship between occupations and productive education.

The subjects directly related to productive work in the middle schools are technology and industry, home economics, and computer science. Among these, computer science is an elective subject. Of the 102 units to complete the middle school programs, students are required to take 4 units of home economics and 5 units of technology and industry.

The middle school home economics program encompasses a wide range of content and provides various levels of skill development. In the area of food, for example, attention is given to basic understandings of nutritional problems, marketing, food preparation, the use of cooking equipment, serving, and other skills.

The technology and industry program involves courses related to technology in manufacturing, construction, communication and transportation, agriculture, industry, commerce, fishery and career guidance. The courses are designed to enhance knowledge on materials, energy, tools, machine and industrial manufacturing and the use of materials and tools.

---

2 One unit means the amount of school learning undertaken by a 50 minute instruction per week for one semester which is equivalent to 17 weeks.
teaching basic knowledge and skills common to all occupations for
students to adjust industrial society and improve one’s ability to suit
one’s own aptitude.

3) High School Program

The first year of high school students all must take the same
courses and the second year students can select courses from humanities
and social sciences, natural sciences and a vocational based curriculum,
based on their own aptitudes and desires. However, a program is under
consideration to offer a greater variety of courses which will allow
students to choose a curriculum matching their aptitudes and abilities.

Vocational education and home economics programs are required
subjects within the national curriculum. The program includes courses in
technology, home economics, agriculture, industry, commerce, fishery,
housekeeping, information, industry, and careers and vocation.

Vocational education programs in academic high schools were
established in 1974. The 3rd year students in the vocational track take
technical-vocational program either at their own school or at other
institutions such as vocational schools, private technical institutes,
attached class of technical high schools and vocational training centers.

Students enrolled in the vocational track in academic high schools
numbered 21,731 which was equivalent to five percent of total academic
high school population. The number of students selecting a vocational
track has been in decline since 1993. The number of students per year in
the vocational education program is shown in Table 6.
Table 6. The Number of Students Taking Vocational Education Program

<table>
<thead>
<tr>
<th>Classification</th>
<th>Year</th>
<th>1993</th>
<th>1995</th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Year</td>
<td>1993</td>
<td>1995</td>
<td>1997</td>
<td>1998</td>
<td>1999</td>
</tr>
<tr>
<td>Vocational school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical high school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public training center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authorized training center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private technical institute</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-company training center</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Academic schools own program</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>58,580</td>
<td>39,408</td>
<td>21,731</td>
<td>18,737</td>
<td>17,841</td>
<td></td>
</tr>
</tbody>
</table>


For academic high school students, vocational school provides courses in electronics, electricity, electric installation, commercial design, automotive repair, information processing, industrial arts and beauty art.

The vocational education programs attached to technical high schools provide courses in machinery, lathe, welding, electricity, textile, automotive repair, chemical engineering. Public vocational training centers provide courses in casting, lathe, mechanic assembling, milling, canning, metal work, electric welding and electric plumbing. Private technical institutes provide courses in automobile repair, aircraft repair, heat control, information processing, cooking, beauty arts, clothing, confectionery, baking and nursing.
3. Technical and Vocational Education

The technical and vocational education programs under the formal education system are provided at both high schools and post-secondary junior colleges. The high school level technical-vocational education programs are three years and the post-secondary programs are two years, with the exception of the marine & fisheries courses and nursing courses which last two and a half years and three years respectively.

In 1999 there were 762 technical and vocational high schools with a total enrollment of 851,751 which is about 38 percent of total high school enrollment. There were 161 junior colleges.

1) Technical and Vocational Education in High Schools

Vocational high schools aim at educating capable skilled workers equipped with sound vocational awareness and professional knowledge to cope with rapid changes in an information-oriented industrial society. They provide technical-vocational education programs in the specialized fields of agricultural, technical, business & commerce, marine & fisheries, and home economics. These vocational high schools are the major sources of the craftsmanship level of industrial manpower in Korea.

The government recognizes and is addressing the need to develop vocational high schools and extend their roles in order to meet the progressive demands due to the continuing growth in advanced industrial technology. The government has provided incentives for vocational education since it provides the major source of skilled manpower for this rapid industrialization. In addition to financial support, the principals of vocational high schools enjoy a great degree of autonomy in recruiting students; for instance, within the policy framework, they are allowed to make decisions between student achievement in middle school and screening test scores as the basis of determining eligibility.
In 1999 there were 26 agricultural high schools, 203 technical high schools, 238 commercial high schools, 8 maritime & fisheries high schools, 75 combined vocational high schools and 214 comprehensive high schools which provide vocational as well as academic courses. These combined vocational high schools are usually located in rural areas or small and medium sized cities and towns where there are a small number of eligible students to take a variety of technical–vocational courses. Table 7 shows the current situation of vocational high schools.

There are 53 different courses of students that can be chosen by students at technical high schools, 14 at agricultural high schools, 8 at maritime–fishery and 7 at business and commerce high schools.

Table 7. Status of Vocational High Schools

<table>
<thead>
<tr>
<th>Classification</th>
<th>Schools</th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural</td>
<td>26</td>
<td>26</td>
<td>17,874</td>
</tr>
<tr>
<td>Technical</td>
<td>3</td>
<td>124</td>
<td>76</td>
</tr>
<tr>
<td>Commercial</td>
<td>99</td>
<td>139</td>
<td>238</td>
</tr>
<tr>
<td>Fishery &amp; Marine</td>
<td>2</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Vocational</td>
<td>62</td>
<td>13</td>
<td>75</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>123</td>
<td>91</td>
<td>214</td>
</tr>
<tr>
<td>Total</td>
<td>55</td>
<td>440</td>
<td>319</td>
</tr>
</tbody>
</table>


The curriculum of vocational high schools is composed of general and vocational subjects. Students are required to take between 204 and 216 units during the three years of study period or six semesters. Of the 204–216 units, students are required to take 104–154 units of general subjects and 88–122 units of vocational subjects. Of the 82–122 units
allocated to vocational subjects, at least 50 percent of the units or 41–61 units should be allocated for practical sessions in the case of technical high schools.

The required period of study in all national, public, and vocational high schools is three years. The schools operate effective field training programs in cooperation with individual industries. One to twelve months of field training is required for technology majors; one to six months for agriculture and commerce majors; one to twelve months for fishery and maritime majors.

2) Technical and Vocational Education in Junior Colleges

High school graduates and those with an equivalent academic background may enter junior colleges. Since 1994, entrance to junior colleges has been determined on the basis of school achievement, scholastic achievement test, interview, and aptitude tests. Also 50–60 percent of the freshmen quota is reserved for the graduates of vocational high schools, craftsmen qualified by the National Technical Qualification System and workers meeting a specified amount of industrial experience.

Although junior vocational colleges place emphasis on practical education aimed at producing mid-level technicians, it is not necessarily a terminal point of schooling. Doors are kept open for its students to continue education at universities. For employed youths, it provides avenues to polytechnic universities as well as the Korea Air and Correspondence University. As efforts are intensified to ensure the relevance of junior college education to industrial needs, the percentage of employment among graduates is increasing.
Table 8. Number of Junior College Student by Program

<table>
<thead>
<tr>
<th>Classification</th>
<th>Enrollments by Course</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st year</td>
<td>2nd year</td>
<td>3rd year</td>
<td>Total</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td>17,419</td>
<td>17,533</td>
<td></td>
<td>34,952</td>
<td></td>
</tr>
<tr>
<td>Social Sciences</td>
<td>93,025</td>
<td>90,692</td>
<td></td>
<td>183,717</td>
<td></td>
</tr>
<tr>
<td>Natural Sciences</td>
<td>253,682</td>
<td>228,941</td>
<td>38</td>
<td>482,661</td>
<td></td>
</tr>
<tr>
<td>Medical &amp; Pharmacy</td>
<td>26,201</td>
<td>28,912</td>
<td>17,951</td>
<td>73,064</td>
<td></td>
</tr>
<tr>
<td>Arts &amp; Physical Ed.</td>
<td>60,853</td>
<td>53,245</td>
<td></td>
<td>114,098</td>
<td></td>
</tr>
<tr>
<td>Teaching Profession</td>
<td>12,747</td>
<td>12,034</td>
<td></td>
<td>24,781</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>463,927</td>
<td>431,357</td>
<td>17,989</td>
<td>913,273</td>
<td></td>
</tr>
</tbody>
</table>


4. Vocational Training

1) Vocational Training System

Since Korea's independence in 1945, vocational training has received attention as a means of non-formal education and has offered education for the unemployed on the basis of the Education Law. The first legal basis for vocational training was 'the clause for the training of skilled manpower' in the Labor Standard Act which was enacted in May 1953.

Thereafter, there was a keen necessity for the Industrial Manpower Training system with regard to substantial progress of the Economic Development Plan. The result was the vocational training system which was formally introduced by the enactment and enforcement of 'the Vocational Training Act' in 1967.

The Central Institute for Vocational Training with the purpose of educating vocational training facilities, was established in June 1968 and the establishment of 'Public Institute of Vocational Training' followed thereafter. The latter was founded by the public loan of Asian
Development Bank (ADB) and International Bank for Reconstruction and Development (IBRD), and its operation meant the realization of the vocational training project. In December 1974, Special Act for Vocational Training was enacted with the purpose to regulate an obligatory system of skilled manpower training for employers with a certain number of employees. With the enactment of the ‘Basic Laws for Vocational Training’ in December 31, 1976, the system of industrial manpower training took full shape.

The Ministry of Labor administers vocational training while vocational education is administered by the Ministry of Education. The supply system of technical and skilled manpower under the Ministry of Labor is shown in Figure 2.

**Figure 2. Supply System of Skilled Manpower**

![Diagram of Supply System of Skilled Manpower]

The vocational training programs are classified into 'initial training', 'upgrade training', and 'job transfer training' depending on the object of training. However, it does not make clear distinctions among the last two categories. In most cases, further training or in-service training is used to include both two. Initial training recognized by the law is that for trainees who are recruited for vocational training and new employees whose length of service is less than one month. Since the law excludes employees whose length of service is between one month and one year from further training, initial training in Korea is principally pre-employment training. Programs of initial training should include (a) general education which is coordinated with practical training, (b) basic training in knowledge and skills common to related occupations which is given by a training institution or in an undertaking on or off the job, (c) specialization in directly usable knowledge and skills for employability.

The number of persons completing initial training accounts for 5.3 percent of all trainees completing craftsmanship training (Table 9). Of persons who completed in-plant training in 1999, 98.8 percent undertook further training while only 1.2 percent underwent initial training. In-plant training concentrates on further training. As a matter of fact, further training, expressed as 'vocational competency development' indicating the development and the improvement of vocational competency, is regulated by the Employment Insurance Act.

Table 9. Vocational Training by Programs 1999

<table>
<thead>
<tr>
<th>Program Institution</th>
<th>Total 1,275,049</th>
<th>Initial Training 48,626</th>
<th>Further Training Upgrade T 867,577</th>
<th>Further Training Job transfer T 495</th>
<th>Training for The unemployed 358,351</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>1,275,049</td>
<td>48,626</td>
<td>867,577</td>
<td>495</td>
<td>358,351</td>
</tr>
<tr>
<td>Public had</td>
<td>160,456</td>
<td>36,883</td>
<td>82,319</td>
<td></td>
<td>41,254</td>
</tr>
<tr>
<td>In-plant</td>
<td>1,112,108</td>
<td>9,258</td>
<td>783,258</td>
<td>495</td>
<td>317,097</td>
</tr>
<tr>
<td>Trainer Training</td>
<td>2,485</td>
<td>2,485</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Vocational training in Korea assumes two forms depending on training institutions: public, in-plant vocational training. Public vocational training is undertaken by the Korea Manpower Agency (KOMA), the Korean Chamber of Commerce and Industry (KCCI), governmental agencies, local autonomies and the Korea Employment Promotion Agency for the Disabled (KEPAD). It aims to train semi-skilled and skilled workers in programs lasting from three months to two years.

KOMA, KCCI and KEPAD are concerned with trades that are commonly required by manufacturing industry (die-making and machine work), export oriented trades (gem cutting, dyeing and weaving, etc), and trades in advanced and new technology (CAM). Governmental agencies concern themselves with trades such as carpentry, bricklaying and electronic welding, aiming at training for the self-development of prisoners and incumbents, while local autonomies concern themselves with trades necessary for increasing the income of farm households.

In 1999 there were 95 public vocational training institutes of which 40 public vocational training institutes under KOMA which included 20 polytechnic colleges which were placed under the authority of the Korean Foundation for Polytechnic Colleges in December 1998.

In-plant training is concerned with trades required directly by industries for the purpose of producing mono-skilled and semi-skilled workers. If an employer chooses to train, there are three different ways of doing so: (a) independent training at his own in-plant training institute, (b) cooperative training with other employers, or (c) commissioned through a third party to undertake actual training on his or her behalf.

The new vocational training system under Employment Insurance System (discussed later) embraces different types of schemes targeted to employed workers (others, targeted to the unemployed, are discussed below) namely: (a) subsidies to firms that conduct in-plant training; (b)
subsidies to firms that assign workers on paid leave for education and training; (c) subsidies to firms for education and training courses that take place outside the firm premises; and (d) subsidies to employees for education and training, training for older workers and tuition loans.

In-plant training is concentrated in large firms. In the first half of 1999, the participation rate of firms with less than 150 workers in in-plant vocational training was negligible, while it came close to 600 percent in the case of firms with over 1,000 workers – this high participation rate is explained by the fact that firms may claim support more than once over a given period of time. Less than 3 percent of those employed in small firms received in-plant training, compared with 40 percent in the case of large firms (Table 10). Other programs of training for the employed are mainly used by large firms.

Table 10. The In-plant Training Program, by Firm Size, 1999

<table>
<thead>
<tr>
<th>Classification</th>
<th>Firm size (number of workers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Firms participation rate (%)</td>
<td>7.2</td>
</tr>
<tr>
<td>Workers participation rate (%)</td>
<td>12.9</td>
</tr>
</tbody>
</table>


- Training for the Unemployed.

Training programs for the unemployed were considerably expanded during the crisis. The main training programs available to the unemployed are (1) re-employment training of the unemployed, a program targeted to workers dismissed from enterprises covered by the EIS, independently of whether these workers are entitled to unemployment benefits or not; (2) training for employment promotion,
which focuses on dismissed workers, not previously insured at the EIS, i.e. mostly temporary, daily and part-time workers; (3) training for unemployed new entrants into the labor market (most young unemployed have been granted internships under public work programs; (4) training for business start-ups, targeted at elderly unemployed, disabled individuals and school drop-outs; and (5) manpower development training, which comprises initial training for craftsmen and training for "3-D" jobs. Of these only the first program is set up under the EIS and therefore funded by the Employment Insurance Fund. The others are financed out of the general government budget.

Remarkably, a large number of unemployed workers have participated in these programs. In both 1998 and 1999, more than 350,000 unemployed attended a training course, accounting for roughly one fifth of the unemployed in the period considered.

However, most training programs for the unemployed appear to be insufficiently targeted at disadvantaged labor market groups. Moreover, they tend to suffer from relatively high drop-out rates, while re-employment probabilities of those who complete the courses are low.

5. National Technical Qualification System

1) Overview

Korea introduced the National Qualification Testing (NTQT) system and scheme in 1967. The aim of the NTQT scheme is to officially test and recognize the occupational technical knowledge and skill standards of individuals and thereby properly guide and direct the training and development of skilled technical manpower required by the business, industries and governmental organizations and at the same time to improve and enhance the socio-economic status of skilled technical people.
The government tests the technical level skill of a person and certifies his/her ability on a certain level through the National Technical Qualification which has been operating since the introduction of the National Technical Qualification Act in 1973.

The qualification system in Korea aims to assess and evaluate the degree of achievement towards a certain goal. Its main functions are to conduct an evaluation of (a) technical skills education and training, (b) special abilities imperative in an industrial society. The Korean qualification system also provides invaluable feedback regarding the qualification system in general and its future direction, which lead to the enhancement of workers’ skills. Policy-wise it controls the flow of the industrial manpower supply.

During the twenty years of the implementation of the national technical qualification system (NTQS), its goal of establishing a working model of certification by integrating into one the scattered standards and criteria has been accomplished. The current impetus must be given to heightening the credibility of certificates and making them more suitable for practical use. The functions of NTQ could be suggested as follows; First, individual skills and capabilities should be evaluated according to standard criteria, making possible the supplying of skilled workers as well as providing a direction for human resources development institutions. The economic and social status of technicians will also rise through increased recognition of their abilities. Second, the qualification system must provide a link between the supply and demand of skilled workers, facilitating the smooth flow of labor. Third, it acts as a guideline regarding employment, pay, promotion to individuals and standards for human resources management, especially in an industrial society. Fourth, qualified and skilled workers can be secured and further utilized, contributing to increased productivity and industrial development.
2) The Structure of NTQS

Classification

As shown in Figure 3, the current national technical qualification system is classified into 5 different levels: Professional Engineer, Master Craftsman, Engineer, Industrial Engineer, and Craftsman. The Service group is divided into Business Management and Other Services. Business Management has 3 levels (geup) and the Other Services group item has under it the two levels of Master Craftsman and Craftsman in 2 fields of work.

Figure 3. Classification of National Technical Qualification
**Certification Criteria**

The criteria for certification under the NTQS are provided in the following (Table 11).

**Table 11. NTQS Certification Criteria**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Certification Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Engineer</td>
<td>Whether or not the applicant has the ability to plan, research, design, analyze, test, operate, construct, evaluate or guide and supervise these activities based on a high level of expert knowledge and field experience</td>
</tr>
<tr>
<td>Master Craftsman</td>
<td>Whether or not the applicant has plenty of experience and skills in order to supervise, guide other workers, carry out on-site training, and act as a link between the management and production workers</td>
</tr>
<tr>
<td>Engineer</td>
<td>Whether or not the applicant has the ability to carry out skilled tasks such as design, base construction, and analysis based on engineering knowledge.</td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>Whether or not the applicant has the ability to carry out multi-skill tasks based on basic technical knowledge or experience</td>
</tr>
<tr>
<td>Craftsman</td>
<td>Whether or not the applicant has the ability to carry out task management duties such as produce, manufacture, operate, repair, and evaluate.</td>
</tr>
</tbody>
</table>

**Certification Process**

The certification procedures according to each technical qualification field is stipulated in Article 15 of the National Technical Qualification Implemental Decree. The certification process proceeds in the order of written exam, practical exam, and interview. Each stage of the exam requires the passing of the previous stage, but if the practical exam is in
the form of a written exam, then both stages may occur within the same stage. The certification process of the technical group qualification is illustrated in Table 12.

Professional engineer qualification requires a written exam and an interview, while the categories of Engineer, Master Craftsman, Industrial Engineer need to take a written and practical exam.

<table>
<thead>
<tr>
<th>Qualification Type</th>
<th>Certification Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Engineer</td>
<td>Written Exam</td>
</tr>
<tr>
<td></td>
<td>Short answers or essay</td>
</tr>
<tr>
<td>Master Craftsman</td>
<td>Multiple choice (1 answer out of 4 choices)</td>
</tr>
<tr>
<td>Engineer</td>
<td>Multiple choice (1 answer out of 4 choices)</td>
</tr>
<tr>
<td>Industrial Engineer</td>
<td>Multiple choice (1 answer out of 4 choices)</td>
</tr>
<tr>
<td>Craftsman</td>
<td>Multiple choice (1 answer out of 4 choices)</td>
</tr>
</tbody>
</table>

The written exam takes the form of essay-type and multiple-choice questions, with the Professional Engineer examinees given short answer and essay questions and others given multiple-choice questions. The cutoff point is 60 out of 100 for professional engineers, master craftsmen, and craftsmen, while engineers and industrial engineers need to receive at least 40 points in each subject with an average higher than 60.

There are 4 types of practical exams: interview, actual performance, written answers, and combined. The interview-type exam applies only to the Professional Engineer class. Actual performance requires the
examinee to use certain equipment and tools to design, manufacture, operate, repair, extract, analyze and inspect according to instructions. The written type refers to the short-answer type written exam, and the combined exam consists of both actual performance and the written type. Qualification exams utilizing solely the written version are currently being transformed into combined or performance-type exams in order to enhance the practical skills of qualification acquirers.

The cutoff point for practical and interview exams is 60 out of 100 for the technical/craftsman Group qualification.

**The Operation of Item Bank**

As for the written version, the item bank is used in order to maintain the continuity and safety of exam questions. The item bank is a system that compiles the knowledge and experience of specialists in a computer system for the formulation of exam questions.

The Korea Manpower Agency (KOMA) did a trial run of the item bank in the 1997 National Technical Qualification written exam and has been operating it since 1998. Currently 514 items (1,525 subjects) input, manage, select, edit, quantify, make, and review exam questions through this system.

There are several advantages in the computer-operated system of national technical qualification written exams, naturally constructing a data base and automating the item bank system. First, duties regarding the making of exam questions such as input, editing, and information search can be done in a more time-efficient manner. Second, the exam questions themselves and their sets can be selected automatically, and errors in grammar will be directly corrected. Third, the quality of questions will improve, security can be maintained more easily and committee members can conduct their duties in a credible manner.
Linking Qualification with Formal Education (credit bank system)

The plans for recognition of credits for acquirers of national qualification within the formal education setting is as follows: (a) It needs to be recognized that the courses listed under the NTQS are much more comprehensive than the titles or content of college courses and cannot be matched. Therefore credits given to certificate holders should foremost be in the form of major requirements, and upon completion of these required courses credits may be handed out as general electives. (b) The highest number of formal education credits that may be recognized through the acquisition of qualification is 110 for the bachelor’s degree and 65 for junior colleges.

Credit Recognition for the Technical Group

1. Professional Engineers are given 45 credits.
2. Master Craftsmen are given 39 credits.
3. Engineers (formerly Class I Engineers) are given 30 credits.
4. Industrial Engineers (formerly Class II Engineers, Multi-skilled Engineers, Class I Craftsmen) are given 24 credits.

Credit Recognition for the Service Group

1. Level 1 Word Processing is given 12 credits.
2. Level 2 Secretarial Work is given 4 credits.
3. Level 1 Abacus Calculation is given 8 credits.

If a certificate holder has 2 or more qualifications in an identical item, then the credits for the highest qualification is granted in its entirety, while the rest of the qualifications are granted 3/4, 2/4, 1/4 of the recognizable credits in order of class.
III. Lifelong Education

1. Institutionalization of Lifelong Education

In view of the important role of lifelong education with regard to self-realization, provisions have been added to the Constitution which holds the government responsible for all necessary support for the promotion of lifelong education. In this connection, legislative actions were taken, culminating in the enactment of the Pre-School Education Promotion Law and the Non-formal Education Promotion Law. The government’s support for preschool education facilities and non-formal education organizations were increased.

To meet the social demand for education, particularly of employed youths and adults who have missed the opportunity for formal school education, schools have increased in number and diversified in kind. Air and correspondence high schools, the Air and Correspondence University and polytechnic universities have been established and these are supplemented by numerous private institutes and schools equivalents operated by social organizations and religious foundations. The Non-formal Education Promotion Law established the criteria for the recognition of non-formal education institutes as the equivalent of formal education corresponding to each level. Their graduates are equally qualified as those from formal schools, for entrance to schools on the next higher level.

As the Constitution requires the state to promote non-formal education, the government aims at providing each and every citizen with increased educational opportunities and helping them cultivate their potential capacity and contributions to social development. To achieve the two major goals of affiliation education to society and make society a place of learning, the government has enacted the Non-formal Education
Act and increased support of related educational organizations.

Recently, the Ministry of Education has enacted and promulgated the Lifelong Education Act (Act No. 6003, August 31, 1999), thereby clearly outlining the functions of the Lifelong Education Center, to carry out research on lifelong education, to train persons in the lifelong education profession, and to collect and provide information on lifelong education.

Based on the Act outlined above, National Center for Lifelong Education was established within the Korea Education Development Institute on March 29, 2000. The center carries out the following functions:

- Research and Development
  - Policy studies on lifelong education
  - Investigation and analysis of the current status of lifelong education institutions
  - Development of professional programs in lifelong education
- Human Resources Development
  - Fostering and retraining of instructors in lifelong education
  - Delivering professional training for workers in the lifelong education profession
  - Operating joint programs with professional training institution
- Information Services
  - Acting as the central hub for providing information on lifelong learning
  - Establishing national network of lifelong education institutions as well as an information exchange network
  - Operating the instructor information bank system
  - Operating the education account system
2. Non-formal Education

Non-formal education is defined as all forms of education, with the exception of school education, which constitute the system of lifelong education. The non-formal education programs are categorized as (a) para-school education, (b) vocational training, and (c) general or liberal education.

Para-schools are excluded from the main school ladder stream in the sense that they do not require a day-long attendance in an institution. This category includes civic schools, civic high schools, trade schools, trade high schools, industry-attached schools (middle and high), school-attached night classes (middle and high), air and correspondence high schools. The college degree acquisition program operates through self-study such as in the Air & Correspondence and polytechnic universities.

Vocational training is offered by technical colleges and vocational training centers under the Ministry of Labor and by private institutions. Training programs in agricultural technology are offered by the Office of Agricultural Guidance and the Ministry of Agriculture and Forestry. Those in fishery and maritime are offered by the Ministry of Maritime Affairs and Fisheries.

Cultural education for the general public is to promote lifelong education of diverse socio-economic groups of the general public. Non-formal educational facilities defined in the Non-formal Education Act. Public libraries, museums, domestic and foreign cultural centers, national theaters, events and publicity programs of various women’s organizations, and mass media such as newspapers, TV, radio and cable TV, all offer cultural education.

3. Air & Correspondence Education

Founded in 1974, air & correspondence high schools admit middle
school graduates who are unable to pursue formal school education. There were 42 air & correspondence high schools with an enrollment of approximately 13,611 students in 1999. In addition to broadcasting programs, students are required to attend Sunday class instruction every other week. They are also required to submit assignments. By completing three-year course and passing a qualification examination, graduates are as equally qualified as the graduates of high schools.

The two-year Korea Air & Correspondence University was founded in 1972 and was reorganized in 1982 to confer a bachelor's degree. It has been expended to a four-year university with 20 departments, with a combined enrollment of about 316,365. The period of study for graduation is from four to ten years.

Instruction features a variety of methods: self-study, broadcast lectures, classes, homework, and assignments. In addition, the distance education system began in November, 1995. The cable television system was launched in September, 1996 so that students can learn through various media. Lectures can be broadcast through EBS TV and radio.

The majority of students enrolled are workers in industries, government officials, soldiers, teachers and others. Thus, Korea Air and Correspondence University is contributing to the promotion of scholarly attainments and in-service training.

4. Polytechnic University

The polytechnic university provides employed youths and adults with an alternative approach to higher education. Since the establishment of Kyonggi Technical Open College (later it was renamed Seoul University of Technology) in 1982, 19 polytechnic universities with an enrollment of about 158,444 have been established in 1999.

The requirements for admission into a polytechnic university are the
same as those for regular universities. However, priority in selection is
given to persons with experience in industrial organizations, holders of
national technical qualifications, and graduates from vocational high
schools and vocational courses in academic high schools, according to the
school regulations. There are no academic years in this curriculum. Over
50 percent of the admission quota is given the opportunity both to
improve their business abilities and to be educated continuously by being
offered classes at night.

Experimental and practical exercises are the center of the curriculum
of a polytechnic university in order to make a positive emphasis on the
practical aspects of education. To heighten adaptability to industrial sites,
a polytechnic university employs staff with teacher's licenses at the
industrial site as supplementary teachers.

5. Credit Bank System

Previously, non-formal modes of higher education were not given
formal recognition or credit, since higher education was understood as
the sole domain of the formal school system. Such a belief placed
inordinate demands on the university system and created excessive
competition among students. Moreover, the value and power of
non-formal education was greatly underestimated.

The Presidential Commission on Education Reform (PCER), in May
1995, presented an innovative vision of a new education system which
promotes the development of an open and lifelong learning society. The
introduction of Credit Bank System was proposed by the PCER as a
concrete way to realize this vision.

On the basis of this proposal, Credit Bank System gained
Between May and December 1997, the accreditation system and
standardized curriculum were developed and the first applications for accreditation for educational institutions and curricula were evaluated. In March 1998, the first stage of implementation began.

As the foundation for the construction of open and lifelong education, this system enables every learner who has completed courses which are subjectively evaluated and authorized to earn college credit. When credits are accumulated and meet certain standards, he or she can receive a college degree.

Each citizen can take part in the credit bank system, but if one wants to take a course for a degree, one should be a high school graduate or equivalent. The ways to receive credit are that (a) one has finished a certain course of education which is evaluated and acknowledged, (b) one has passed the tests set for self-study, (c) one has the certificate set by the law of certification and (d) one has received credit through part-time registration.

After completing the necessary credit requirements (140 credits for a bachelor’s degree, 80 credits for a two-year associate diploma, and 120 credits for three-year associate diploma), graduation candidates may submit a Degree Application to either KEDI or their Provincial Offices of Education. These applications are reviewed by the Screening Committee for Academic Credit Accreditation at KEDI, and then forwarded to the MOE for final approval. Candidates can be awarded a degree by the MOE or they may receive a degree directly from a university or college. In the latter case, candidates must meet the specific degree requirements of the awarding institution (e.g., over 85 course credits for universities and over 50 course credits for colleges).

To increase the opportunity for education for workers at the industrial sites and to activate educational collaboration with the industrial complex, it offers an educational system to the industrial complex.
6. Self-Study as an Alternative to a Bachelor's Degree

Through a standard examination administered by the government, self-study has been recognized as a new avenue to a bachelor's degree for those young people and adults who have a high school diploma but have missed the opportunity for higher education because of financial difficulties or lack of time. The self-study system as an alternative to a bachelor's degree has been implemented since 1990 on the basis of the "Self-study as an Alternative to a Bachelor's Degree Law."

There are examinations at each stage toward obtaining a bachelor's degree. However, holders of technical qualifications on the basis of the National Technical Qualification Law, successful applicants and holders of qualification licenses in various kinds of national examination and graduates of educational courses offered by universities and industrial complexes are recognized as having a school career equivalent to a bachelor's degree through self-study, so the self-study system exempts them from the examination at each stage or some parts of the curriculum. By providing an alternative path to a bachelor's degree, the self-study system attaches as much importance to non-formal education and the lifelong process of learning as to formal school education.

The 12 specialized fields were set up by the implementation of the self-study as an alternative to a bachelor's degree. The process of obtaining a bachelor's degree through self-study requires passing a four-stage examination.
IV. TVET Supporting Systems

1. Administration of TVET

1) Organization of TVET Administration

- Administration of Technical and Vocational Education

The Ministry of Education (MOE) is the central government organization responsible for the formulation and implementation of policies related to academic activities, the sciences and public education. MOE integrates and coordinates educational policies, publishes and approves textbooks, provides administrative and financial support for all levels of schools, supervises local educational agencies and national universities, operates the teacher training system and takes charge of the function of non-formal education.

Headed by the Minister and Vice Minister, the Ministry has two offices and three bureaus: Planning and Management Office and School Policy Office, and Lifelong Education Bureau, Higher Education Support Bureau, and Local Education Support Bureau. In addition, 5 professional officers are responsible for offices of professional concerns. The organization of the Ministry of Education is shown in Figure 3.

The Lifelong Education Bureau is responsible for the administration of technical and vocational education at secondary and post-secondary level schools and colleges. The Vocational and Professional Education Policy Division within the Lifelong Education Bureau is the central government level office dealing with upper-secondary and tertiary technical-vocational education. The Junior College Support Division is looking after the administrative and academic related matters for junior colleges.

With the legislation of the local autonomy law, the educational
administration became decentralized and MOE delegated much of the budget planning process and major administrative decisions to local authorities.

In response to heightening concern for the diverse needs of local education and the skill required, district offices of education, distinct from the general administration, have been established in seven metropolitan cities and nine provinces, as well as in counties and equivalent administrative areas. The offices make decisions regarding education, art, and science, pertaining to their respective local areas.

A superintendent represents the executive body of the local offices of education, which is responsible for the administration of education, art, and science. Elected by the majority of the members, the superintendent serves four years. The qualifications for the position are established by law: The superintendent should have at least 15 years of experience in the education profession.

The Ministry of Education conducted evaluations of 16 metropolitan and provincial offices of education from March through July 1999. The evaluation was focused on the degree of satisfaction of students and their parent who are consumers of education. The Ministry of Education reported the results in August and provided a budget of 150 billion won for those offices which did well in the evaluation.

As for educational advisory organization, the Advisory Council for Educational Policy assists the Minister of Education. The Advisory Council for Educational Policy was inaugurated in May, 1988, to examine the educational policy of the government and important matters related to educational development. It should provide advise and suggestions as requested by the Minister of Education.

It has performed vigorous discussion and research activities since then and has produced excellent results in the improvement and advancement of educational policies. These results include the improvement
Figure 3. Organization of the Ministry of Education
of the entrance system for junior colleges, the establishment of the local autonomous system, the grouping of promotion measures for special education, the reform of vocational high schools, the encouragement of the School Security Mutual Benefit Association, the enforcement of a guarantee system for excellent teachers and so forth. The Council consists of 60 members appointed for two-year terms, all specialists in education. The Council consists of six subcommittees and a Comprehensive Steering Committee which is composed of the chairmen of subcommittees.

- **Administration of Vocational Training**

  Vocational training is administered by the Ministry of Labor. Headed by the Minister and Vice Minister, the Ministry has two offices and four bureaus: Planning and Management Office and Employment Policy Office, and Labor Policy Bureau, Labor Standard Bureau, Industrial Safety & Health Bureau and Women Workers Bureau. In addition, eight professional officers are responsible for offices of professional concerns.

  The office in charge of vocational training in the Ministry of Labor is the Ability Development Officer under which there are four divisions: Training Policy Division, Human Resource Development and Qualification support Division.

  The Korea Manpower Agency is a subsidiary public corporation responsible for vocational training. Main functions of KOMA are (a) vocational training, employment guidance, and follow-up service, (b) development of vocational training materials, (c) National Qualification Testing and Registration, (d) skill encouragement and competitions, (e) employment promotion, and (f) promotion of private vocational training.

2) **Financing of TVET**

  The educational finance in Korea consists of the central government
budget, the regional or local government budget and the financial resources of private schools. The larger portion of educational finance is dependent on governmental support, students' tuition, while contributions from companies and social organizations occupy a very small share.

The major source of national educational budget is internal revenue. This budget comprises operational expenditures of the Ministry of Education, national universities, research institutes, and grants for local educational finance (47.2 percent) to support primary and secondary education in the individual regions.

Private schools exist at every level of education from elementary to college. For junior colleges and universities, up to 90 percent are private schools. Funding for private schools mostly depends on tuition from parents, support from national or regional entities and resources from the schools' foundations.

The Korean government has greatly increased the education budget embarked for the improvement of the quality of education in accordance with the emphasis on quality in recent education. In an effort to increase the education budget to 5 percent of the GNP, in 1999 the size of the education budget reached 4.8 percent.

The size of the central government's education budget was 17.9 trillion won which was 19.5 percent of the central government total budget and the greatest share. To compensate for education budget, the Korean government in 1982 tentatively instituted an education tax, then changing it to a permanent tax in 1991 which eventually became an important financial resource to the central government as it represented 26.2 percent of the budget for MOE in 1999.

14.9 trillion won, or 83.4 percent of the total budget of 17.9 trillion won, is given through the metropolitan and provincial offices of education for the local funds of primary and secondary school education, and the remaining 2.9 trillion, 16.6 percent of the total budget, is disbursed
directly by MOE itself.

Concerning the distribution of national funds, 232.1 billion won, or 7.8 percent is spent for vocational high schools and junior colleges and 31.3 billion, or 1.1 percent for lifelong education. The details of the distribution of national funds is shown in Table 12.

**Table 12. Treasury Finance Disbursed by MOE, 1999**  
(unit: in billion won, %)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Budget</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary and secondary school and special education</td>
<td>236.546</td>
<td>7.9</td>
</tr>
<tr>
<td>Vocational high schools and junior colleges</td>
<td>232.160</td>
<td>7.8</td>
</tr>
<tr>
<td>College education</td>
<td>970.352</td>
<td>32.6</td>
</tr>
<tr>
<td>Education information</td>
<td>57.998</td>
<td>1.9</td>
</tr>
<tr>
<td>Education for oversea Korean &amp; lifelong education</td>
<td>31.340</td>
<td>1.1</td>
</tr>
<tr>
<td>Educational policy &amp; operation of educational</td>
<td>347.747</td>
<td>11.7</td>
</tr>
<tr>
<td>organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic project and others</td>
<td>997.240</td>
<td>33.5</td>
</tr>
<tr>
<td>Government grant and others</td>
<td>103.412</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,976.795</td>
<td>100</td>
</tr>
</tbody>
</table>


2. **TVET Research and Development**

The research and development works and projects for technical and vocational education and training are carried out mainly by the Korea Research Institute for Vocational Education and Training (KRIVET). KRIVET was established in 1997 to strengthen vocational education and training in order to provide all individuals with opportunities for lifelong learning as well as to contribute to enhancing the nation’s competitiveness. It is under the protection of the Korea Research Institute for Vocational
KRIVET carries out the following educational research and development works in all areas of technical and vocational education and training.

- Conducting policy-oriented research on a national basis in the areas of vocational education and training, and industrial manpower;
- Developing, disseminating and evaluating various vocational education and training programs;
- Establishing a system for lifelong vocational education and training by building links between vocational education and training in industry;
- Assisting people in choosing and developing their careers in accordance with their competencies and aptitudes by conducting psychological tests and career counseling.
- Collecting, analyzing and disseminating information on labor market trends, job opportunities, vocational education and training, etc.
- Formulating and undertaking research on the development of vocational qualification systems that value a person’s vocational competencies and qualifications more than his/her formal schooling; and
- Promoting exchange of personnel and information with advanced countries to develop the field of vocational education and training in Korea, and to cooperate with developing countries in sharing our experience in vocational education and training.

3. TVET Teacher Training

Vocational-technical teachers for upper secondary technical-vocational high schools are trained mainly at technical-vocational teacher training department of various colleges and universities.

The teachers in the areas of technical education are trained at the Department of Industrial Education of College of Engineering at Choongnam National University. The annual enrollment capacity or
entrance capacity of the department is 70 students in seven different technological fields such as electronics, electrical, mechanical, building construction, civil, metallurgical and industrial chemical engineering. The teachers for computer technology are trained at the Korea National University of Education with annual training capacity of 20.

Students in the technical and industrial education department need to take various technical-vocational education and teaching related pedagogical subjects and practice student teaching in addition to taking their own specialized technical and engineering subjects and general subjects. Upon successful completion of the course, students are awarded the Bachelor of Science degree and a secondary school teacher license.

The teachers in the area of agricultural education are trained at three universities: Seoul National University, Soonchon National University and Kunkook University and the annual total entrance quota of the three Agricultural Teacher Training Departments of the three universities is 80.

The teachers in the area of marine-fisheries are trained at the Maritime-Fishery Education Department of Pusan Marine & Fisheries University. The annual training capacity of the department is 10.

The teachers of business and commerce studies are trained at 15 different colleges and universities throughout the country.

Other than these technical-vocational teacher training institutions, many other colleges and universities offer teacher education programs in addition to the students’ major subjects to supplement the supply of teachers for secondary schools. This arrangement provides an alternative path of becoming teachers of their major specialization for students enrolled in programs or department other than teacher training departments or colleges.

In-service training for upper secondary technical and vocational teachers is conducted by the four secondary schools. This arrangement
provides an alternative path to becoming a teacher in their major specialization for students enrolled in programs or department other than teacher training departments or colleges.

The Korea University of Technology and Education (KUTE) was established to train vocational training teachers and instructors for vocational and industrial training institutes and technical high schools in 1992. The University offers 13 undergraduate programs and two graduate programs (mechanical engineering and electrical engineering). The present current annual training capacity of KUTE is 320 in 1998 and it will also provide upgrading and retraining programs for existing technical-industrial teachers and instructors.

4. School and Industry Partnership

The cooperation and collaboration between technical-vocational schools and industry has been rather weak and loose. The industries have been providing unorganized and unstructured on-the-job work experience for the technical-vocational high school students and junior college students on a voluntary basis upon request by individual high schools and junior colleges.

To satisfy the needs of a rapidly changing society and to produce excellent industrial manpower, the Korean government has been in the process of restructuring the technical-vocational education and training system to develop partnership between TVET and industries especially in the areas of technical, educational and training. The main purpose of the restructuring is to improve the efficiency and effectiveness of TVET by sharing the resources available in schools and industry.

The new technical high school education system which is called the dual system or [the Two-plus-one Program] was introduced in 1994. The program comprises two years of vocational education in schools, followed
by one year of practical 'hands-on' field training in industrial based companies. In 1998 the program was operated in 40 designated model schools and 9,110 students are taking part in on-the-job training at 1,928 industrial companies. As of 1999, the program was operated in 37 technical high schools with participation of 17,283 students. The content of curriculum is as follows:

<table>
<thead>
<tr>
<th>Classification</th>
<th>General technical high school</th>
<th>School with 2+1 industrial high school system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Approach</td>
<td>School education for 3 years (On-site training as the form of internship of 1 to 6 months)</td>
<td>School education for two years On-site training for one year</td>
</tr>
<tr>
<td>Education Contents</td>
<td>Basis of theory and concept</td>
<td>Basis of duty and function</td>
</tr>
</tbody>
</table>

The on-site training can be made and performed for from 2 to 68 units as the extra-curricular activities that are added to the independent curriculum or completely different from the first year depending on the discretion of the principal. The duration of on-the-job training varies, ranging from 1-6 months in agricultural and commercial high schools, 1-12 months in technical high schools to 3-12 marine & fisheries high schools.

Cooperation between industry and colleges has been promoted to provide skilled manpower to meet the industrial demands. Junior college education contributes to the development of industry through the following activities: internship for students, industry field training of junior college faculty, education of industry employees in junior colleges, joint research and exchange of techniques and information between colleges and industry, the establishment and operation of the committee on Cooperation between Industry and College, and the operation of curriculum at the request of the industrial entities.
5. International Cooperation in TVET

1) International Organizations for Cooperation in TVET

- TVET Cooperation in OECD

OECD (Organization for Economic Cooperation and Development) was established in 1961 with the purpose of achieving the highest sustainable economic growth, contributing to sound economic expansion, and contributing to the expansion of world trade. OECD is composed of 29 member states which are mainly industrialized countries. Korea became 29th member state of OECD in 1996.

In order to collect various high quality materials and information about education policies through comparative studies among developed countries, to experience active participation in information exchange systems, and to contribute to the development of education policies through participation in studies in various educational fields, seminars and programs, Korea registered as an observer of the OECD Education Committee and CERI (Center for Education and Innovation, a semi-independent educational research and development organization) and has participated in conferences held every year.

Also, Korea dispatches specialists to specialized conferences such as OECD International Education Statistics and Indicators, Program on Educational Building, Institutional Management in Higher Education and conferences on the change in the role of vocational education.

The “Korea–OECD Education Training Seminar” on the subject of “The Education and Training of Industrial Manpower,” was held in Seoul in May, 1994, and provided momentum to determine the direction of development in Korean vocational education policy.

OECD Education Projects are encouraged in that educational cooperation with OECD helps Korea participate in the stream of world
education as Korea became a member nation of OECD and in that Korea can establish effective collaborative systems among industry, education, and research through organic cooperation with the economic and industrial world. Korea is involved in OECD projects such as International Indication of Educational Statistics (INES) and Financing Lifelong Education.

Korea Research Institute for Vocational Education and Training participated a joint research project on “A Study of Improving Motivation for Lifelong Learning” in the period of 1999-2000. The study aimed at finding successful cases in improving student motivation for learning in Korea’s secondary schools.

- **TVET Cooperation in APEC**

APEC (Asia-Pacific Economic Cooperation) was formed in 1989 in Canberra, Australia, in response to increasing calls for closer economic cooperation among the economies in, and enhance interdependence within, the Asia-Pacific region through increased intra-regional trade and investment flows.

As of 2000, APEC consists of 21 member nations in the Asia-Pacific Area. For the improvement of cooperation and understanding among member nations in the human resource development educational field, the Minister of Education Conference was held in Washington in August, 1992, and it agreed to the establishment of the APEC Education Forum as a devise to encourage educational cooperation.

Accordingly, Korea organized a delegation including specialists in education, to participate in the Education Forum Conferences which have been held twice a year since the first conference in January, 1993. In fact, Korea sponsored the Fourth Education Forum in Seoul in June, 1994. As of 1999, Korea is involved in Education Forum Projects including Vocational Teacher Standards & the Formulating

At the eleventh HRD Working Group Meeting held in Manila in 1995, Korea suggested an Exchange Program of Vocational Training Staff and Information, which was confirmed at the 13th HRD WG (Human Resource Development Working Group) meeting. The first stage involved an exchange program of vocational training instructors, vocational training experts and information on vocational training. The second stage included an exchange program of technical and skilled manpower, supporting vocational training facilities and equipment.

As a means of conducting the exchange program of vocational training staff, the Korea Manpower Agency (KOMA) provided upgrading training courses for 47 participants from APEC member economies in 1997 and 40 participants in 1998.

At the 2nd Ministerial Meeting held in Seoul during the period from 23 to 26 September 1997, Korea proposed the "APEC Youth Skill Camp." The Joint Statement of the Leaders' Meeting in Vancouver, November 1997, welcomed the APEC Youth Camp to be held in Korea. The First APEC Youth Skill Camp will be hosted by Korea in September 2000.

**TVET Cooperation in UNESCO**

On the basis of the fundamental spirit of the United Nations and the Charter of UNESCO and the decision of the UNESCO General Assembly, the objectives of UNESCO are the diffusion of new international knowledge and a just understanding among nations through the exchange of education, science, and culture. At the same time, these objectives address the contribution to the establishment of world peace and the improvement of human welfare by promoting international understanding, amity and cooperation through active interchange among nations. Now UNESCO consists of 186 member nations.
To contribute to the internationalization of TVET in Korea, to show an amount of energy equal to our position in the world and to promote international understanding, Korea participates in all kinds of local education cooperation projects and promotes international exchange and cooperation in educational reform and development by participating in international conferences concerned with education.

UNESCO activities and programs are supported in various ways, such as a trust fund. The major programs include: APEID (Asia-Pacific Program of Education for All) and UNEVOC (UNESCO International Project on Technical and Vocational Education). In order to persuade the domestic educational world and its specialists to participate in programs and in the process, also determining positions, Korea has put an emphasis on participation in the UNESCO General Assembly Executive Committee and various other committees. Consequently, it has made every effort to extend participation to subsidiary organization committees.

Providing lifelong learning and training for the world of work in the twenty-first century is the main thrust of the Second International Congress on Technical and Vocational Education which was organized by UNESCO in co-operation with the Government of Republic of Korea. This Congress addressed some of the central issues relating to learning and training for the development of the human resources that would be required in the early years of the next century – issues that would confront both developed and developing countries in an age of rapid social, economic and technical change. This Congress also provided an international forum for the Organization’s Member States to examine how technical and vocational education and training should adapt to the new circumstances prevalent on the threshold of the twenty-first century. The Congress requested UNESCO to launch a long-term Programme on Technical and Vocational Education and Training from the year 2000 with a significantly increased budgetary allocation.
In Resolution 9 adopted on the report of Commission II at the 26th plenary meeting, on 17 November 1999; Establishment of an international long-term programme for the development of technical and vocational education

The General Conference, Request the Director-General as part of the follow-up to the Second International Congress on Technical and Vocational Education, to establish regional centers of excellence (one within the Korea Research Institute for Vocational Education and Training) in order to strengthen regional and sub-regional cooperation.

- **TVET Cooperation in ILO/APSDEP**

Korea became the 152nd member to the International Labor Organization (ILO) on December 9, 1991 (there are 174 member countries as of 2000). On June 10, 1996, Korea was elected to the three year Member of Governing Body. This is important basis for active participation in decision making process of international labor policy.

Under the International Labor Organization APSDEP (Asian and Pacific Skill Development Program) was established to enhance skill development, employment promotion, socio-economic development of member countries in 1978 (there are 29 member countries as of 1999). APSDEP collaborates with member countries in evolving an integrated approaches to regional training policies, strategies, guidelines and analyses. In line with national and ILO program priorities, APSDEP also assists in coordinating and improving the effectiveness of training program.

With financial assistance from APSDEP, the Korean government has established the Seoul Institute for Vocational Training in Advanced Technology (SIVAT) to conduct vocational training for skilled manpower and to introduce advanced technology through the mutual exchange of up-to-date information, accelerating the economic and social development in the Asia and Pacific region as a cooperated program in 1989.
Major functions of SIVAT include advanced training for APSDEP member countries, upgrading training for developing countries, implementing cooperative projects, Expert training for foreign service, Exchange of vocational training information through R & D, curriculum development and development of teaching methods and training materials, and introducing high technology.

SIVAT has provided advanced training for persons from APSDEP member countries since 1989. More than 700 persons have taken training in the period of 1989–2000.
V. Directory of Key Related Institutions and Professionals

1. National Level TVET Administrative Offices

1) Vocational and Professional Education Policy Division

   Lifelong Education Bureau
   Ministry of Education
   77, Sejong-ro 1-ga, Chongro-gu, Seoul 110-760
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   Fax. No.: (02) 504-2039
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   Tel. No. : (02) 3271-9141, 704-3346  
   Fax. No. : (02) 716-5742  

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2. **TVET R&D Related Institutes**

1) **Korea Research Institute for Vocational Education & Training**

   15-1, Chungdam-dong, Kangnam-gu, Seoul 135-949  
   Tel. No. : (02) 3485-5000, 3485-5100  
   Fax. No.: (02) 3485-5048  

2) **Korea Labor Institute**

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   Fax. No.: (02) 782-0311
3. Teacher Training Institutions

1) Department of Technical and Industrial Education

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   Chungnam National University
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   Tel. No. : (042) 821-5694
   Fax. No.: (042) 823-5436

2) Korea University of Technology and Education

   307 Gajeon-ri Byungchon-myon
   Chonan-shi, Chungnam 330-860
   Tel. No. : (041) 560-1000
   Fax. No.: (041) 564-3261

3) Department of Agricultural Education

   College of Agriculture and Life Sciences
   Seoul National University
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   Tel. No. : (031) 290-2541
   Fax. No.: (031) 291-5830

4) School Policy Office

   Ministry of Education
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   Tel. No. : (02) 737-5506, 720-3047, 720-3440, 720-3046
   Fax. No.: (02) 720-4546
4. TVET Related Professional Societies and Associations

1) Korea Institute of industrial Educators

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2) The Korea Society of Agricultural Education

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3) The Korea Society for the Study of Vocational Education

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4) Korea Home Economics Education Association

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Department of Business Education  
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Fax. No. : (041) 850-8255

6) **The Korean Society for the Study of Career Education**

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7) **International Studies and Cooperation Division**

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VI. Recent Reform in Vocational Education and Training

1. Historical Development of Vocational Education and Training

In the early 1960s, Korea was a typical labor-surplus economy with a scarce endowment of natural resources and a small domestic market. The government established a vast economic development plan and restructured the vocational education and training system in order to supply the manpower necessary to implement the plan. As a result, most of the formal technical and vocational education was provided within the state education system, and was systematically planned and standardized. The government rapidly expanded enrollment in vocational schools in the 1960s. However, the formal vocational schools were not able to prepare sufficient technical manpower for the rapidly industrializing country. In order to train enough workers to meet the increasing industrial demands, the government enacted the Vocational Training Law in 1967 as a result of which many new vocational training institutes were established.

During the 1970s, the government undertook a fundamental structural change towards the development of heavy-chemical industries. This rapid structural change heightened the industrial demand for skilled workers and craftsmen. To meet this requirement, the government strengthened technical and vocational education at the secondary level, expanded the number of public vocational training institutes and legally mandated in-plant vocational training in most private enterprises.

The government encouraged private companies to provide in-plant training with the enactment of the Basic Law for Vocational Training in 1976. Large companies in certain industries were required to provide in-plant training for a certain number of their employees. These
companies were obliged to pay a training levy if they did not provide in-plant training, or if their training did not meet government regulations. This mandate applied initially to firms with more than 500 employees; in 1991, this number was decreased to 150 employees, and in 1995 - to 100 employees in the manufacturing sector.

In parallel with the rapid structural changes to heavy and chemical industries during the 1970s, the government re-organized the existing five-year junior technical colleges (comprising three years of secondary and two years of post-secondary) into two-year junior vocational colleges directed toward the preparation of technicians and engineers - able to perform specific technical tasks in the heavy and chemical industrial fields.

In 1973, the government implemented the National Technical Qualification Testing (NTQT) system to improve the quality of skilled manpower and to enhance the socio-economic status of skilled technical workers. The system successfully encouraged students and employees to acquire higher technical and vocational skills, thereby effectively increasing the efficiency of the workforce. The Korea Manpower Agency and the Korea Chamber of Commerce and Industry (KCCI) were commissioned to carry out the National Qualification Testing. By the end of 1996, a total of 4,905,329 trainees had acquired national technical qualifications.

In the 1980s, the government expanded opportunities for higher education to meet social demand, mainly for political reasons. The government strengthened junior college education and established open universities to provide continuing education for the employed. Thus, enrolment in junior vocational colleges increased while enrolment in vocational senior secondary schools and the number of in-plant trainees began to decline. This resulted in a shortage of workers for production jobs, especially in the small and medium size companies.

In the 1990s, the economy was facing new challenges posed by the
changing economic environment including the globalization of trade and labor markets, the rapid advancement of new technologies and more competition. Despite the expansion of higher education in the past decade, the present level of education and training was unable to meet today’s industrial demands. The government has recently introduced various measures to strengthen the vocational education and training system in order to prepare the necessary skilled manpower to meet the changing industrial demands while reducing the pressure on higher education.

In 1990, the government began implementing certain policies to increase the enrolment in vocational senior secondary schools, to increase the enrolment ratio of general versus vocational senior secondary schools from 68:32 to 50:50 by 1995. Although the scheme contributed to increasing the enrolment in vocational senior secondary schools from 32 per cent of the total senior secondary school enrolment in 1990 to 39 per cent in 1995, the scheme failed to induce students away from higher education and to supply the necessary manpower required by the industries.

To strengthen the links between schools and industry, especially in the areas of technical education and training, a new system named “the Two-plus-one Program” was introduced in 1994 and was implemented in forty designated model schools in 1998. The program comprises two years of vocational education in schools, followed by one year of practical ‘hands-on’ field training in industrial companies. From 1999, the implementation of this system has been left to the discretion of technical senior secondary schools.

Beginning in 1998, the Presidential Commission for New Education Community³ examined the effectiveness of the policies to expand enrolment

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³ PCER, a consultative body directly under the President, was established in February, 1994 and has announced educational reform suggestions in 48 areas. The Commission announced major educational reform plans on May 31, 1995, with supplementary educational reform plan on February 9, 1996, and August 20, 1996.
figures for vocational senior secondary schools and to encourage close industry-school linkages. By the end of 1995, it was concluded that some of the earlier policy measures were inappropriate. PCER recommended certain changes in the policies, placing emphasis on quantitative expansion of vocational senior secondary school enrolment to that of placing more emphasis on the quality improvement of vocational education.

Within the framework of a comprehensive education reform, it was crucial to establish a major body responsible for evoking the participation of the major stakeholders in the process of reform, since changes at the school sites can not be brought about and sustained without the active participation of all parties involved. In this vein, the Presidential Commission for Education Reform, commonly referred to as PCNEC or the Presidential Commission for the New Education Community, was established in June 1998 to carry out participatory educational reforms in Korea. In pursuing this objective, PCNEC has been assisting in the creation of a new education community where all citizens including parents, teachers and community members play an active role in education. PCNEC has also provided the President with ongoing advice and assistance in regard to education reform. PCNEC, as a co-operative body focusing on recognizing the voice of local schools and educational institutions, has been promoting educational reform by providing professional consultation and support services, linking citizens and education officials, and encouraging active participation of the public regardless of social class and level.

2. The New Vocational Education System

Vocational education, meanwhile, continues to have the reputation of being a “second class” education system chosen only by those who have failed to get accepted at a college. And because the educational content
does not meet the needs of the practical world, it has long been a source of complaint for businesses with some going as far as to disregard the various diplomas awarded by vocational schools. This current underdeveloped state of the nation's vocational education is due to the lack of cooperation between the schools and businesses, central and autonomous provincial governments and among the various government agencies.

PCER proposed the Second Educational Reform Program including the vocational education reform in 1996. The main objective of this vocational education reform is to establish a "Lifelong Vocational Education System" to realize a "Lifelong Open Learning Society." It will ultimately lead to the development of each individual according to his or her unique talent and interest as well as nurturing high-quality human resources that reflect the needs of labor market.

The reform of vocational education will be promoted in the following four directions.

(a) From a blocked path to an open hope - graduates of vocational high schools will be given opportunities to continue with their studies through polytechnic university, junior college, polytechnic college, New University and even up to graduate school while they continue to work. To achieve this, the government will increase the budget for vocational education.

(b) The education system will be based on competition and cooperation; the foundation will be laid for the realization of cooperation between schools and industries. At the same time, schools will be encouraged to compete with each other.

(c) Vocational education will be "useful" for industries; it will open the way for industries to participate in the evaluation and management of vocational education. Reorganization of the system will allow the active exchange of human and material resources between schools and companies.
The system will move from an "inefficient" educational system to an "efficient" one; the government's role here will be: to revise the qualification system to link schools with businesses and thereby integrate education and training; promote effective use of the latest multi-media and telecommunications technology to provide learners with low-cost but high-quality vocational education; increase the autonomy of each school; and strengthen the role and finances of the local autonomous entities.

Despite the large number of highly educated individuals in their 20's and 30's, the overall educational standard of ordinary citizens is relatively low compared to their counterparts in developed nations. Currently, with respect to educational attainment the Korean workforce is as follows: 36 percent with less than a high school education, 45 percent high school graduates, 6 percent junior college graduates and 13 percent college graduates. If the current trend continues, the radio will be 26 percent, 50 percent, 9 percent and 15 percent respectively by the year 2000. This means that we still have a long way to go before we are at the level of other developed nations.

In order to upgrade the current level of education to that of developed countries, a radical reform of vocational education is needed. To bring about this change, the government and business, as well as the educational and training institutions, have to combine their efforts and cooperate.

Following are the three main objectives to be accomplished by the year 2000.

(a) Ensure that those who do not plan to enter college are given opportunities to receive proper vocational training in high school.

(b) Ensure that vocational training at the junior college level will be available to those who desire it.

(c) Ensure that those working who wish to improve their professional skills are given the chance to receive any vocational education or
training they desire.

Efforts are underway to establish a new vocational education that promotes school to work transition. First, legal foundation for "the era of open and continuing education" has been prepared. The legislation on the credit bank system in 1996 was enacted to allow part-time registration to college on a test base.

Second, provisions were made to build a new vocational education system. The provisions include Vocational Education Promotion Law, Basic Law on Certification, and Korean Occupational Competency Development Institute Law, which will expedite improvements in vocational education. Supportive system was established to pursue excellence in research and development (Korea Research Institute for Vocational Education and Training was established in October 1997).

Third, students in vocational high schools and industry workers are able to carry out further education beyond high school. These students hold priority in the selection process for colleges in related fields of study. Beginning 1996 graduates of junior colleges attain associate degrees.

The reform proposals made by PCER presents a blueprint for the Korean education in the 21st century. Since 1995 the Ministry of Education set up an action plan to put the reform proposals into practice. The ministry also laid out an investment plan for 1996-1998. A total of 9.4 trillion won was secured to carry out reform projects. Legislation is underway to make a new law or to revise the current law to facilitate the reform efforts. Therefore, it is expected that education reform will keep pace with the action plan set by the Ministry of Education.

With the introduction of a lifelong education system, junior college education was expanded. Between 1979 and 1997, the enrolment in junior colleges increased 11 times and the programs were diversified, from 91 into 361. Based on the Educational Reform Program, the customized training system responding to industrial demands was implemented in
more than ninety junior colleges' of which 59 colleges were provided financial support from the government in 2000. In order to strengthen the junior colleges' capacity for vocational education, programs linking the curriculum of the second and third years of vocational senior secondary schools with that of the vocational college (2+2) have been implemented in some schools. Students who have completed vocational senior secondary school courses are given priority in the selection process for entry into colleges in related fields of study. From 1996, graduates of junior colleges receive associate degrees.

To encourage workers to upgrade their skills and knowledge, the government revised the Polytechnic College Law in order to grant degrees to graduates of polytechnic colleges in 1997. The Korea Foundation for Polytechnic Colleges was inaugurated by KOMA with the approval of the Ministry of Education during early 1998. Beginning February 1998, graduates of polytechnic colleges could attain Industrial Associate Degree.

3. Recent Reforms in Vocational Training

1) Vocational Competency Development Programs

The Korean state has attempted to correct market failure in the training market by imposing a levy system, by implementing a national technical qualification system, and providing public vocational training. Compulsory training and test systems in Korea, however, did not encourage firms to undertake training and upgrade training programs voluntarily. The most visible evidence of this was the lack of upgrade programs in enterprises. Training programs for blue-collar workers thus far was concentrated in the basic skill training of pre-employed trainees or new entrants to the workforce, and they lacked established channels
for existing employees to improve their technical knowledge and skills to enabling them to attain higher-level technical certificates.

The concentration of training programs in basic skill training can be attributed to the training policy designed to channel unemployed individuals into the industrial sector during the economic expansion of the 1970s. Even though training contributed to the early increase in in-plant training, it did not meet the training demands of private firms during the currently changing environment in the Korean economy. State regulations concerning the use of training funds and the qualifications of trainers, training materials, and equipment have not provided employers with the incentives and assistance they need to invest in the further education and training of their workers or to pursue high productivity forms of work organization.

Such a compulsory in-plant training system which was designed to concentrate on the basic training for new entrants to the labor market at the embryonic stage of industrial development, contributed to the provision of necessary manpower to thereby sustaining rapid economic growth of Korea. It was pointed out, however, that the system should have been changed to accommodate the new embryonic trends, especially during structural adjustment and industrial restructuring.

Entering the 1990s, voluntary training by companies has increased greatly. At the same time the number of youth undertaking vocational training has decreased markedly, due to sheer reduction per ratio in the young population and the increasing number of youth entering universities. In designing the Employment Insurance System (EIS) of Korea, one of the hottest issues was how to encourage the private sector to provide training on a voluntary basis and to boost upgrade training and retraining of in-service workers and job transfer training of the unemployed. Some people contend that in order to promote voluntary training in the private sector, the compulsory training system should be
abolished as soon as possible.

However, the Korean government decided that it is premature to completely abolish the current compulsory system which has existed for almost two decades and for the time being it is desirable to apply the system to companies with 1,000 or more employees which still need a large number of trained workers. As a result, enterprises with less than 1,000 employees were exempted from the compulsory vocational training system from July, 1995, consequently they fall into the Employment Insurance System. The implementation of training is under the discretion of the employer and financial support for training is based on the training costs.

The vocational competency development scheme under EIS is not a compulsory but an incentive system to induce voluntary training by providing financial support to employers and employees from the EIS fund. There are two main categories of financial support available in the scheme. One is the support to employers who implement the vocational competency development programs, namely, support for in-plant training, other education and training, and paid leave for education and training. The other is support to employees under education and training, namely, training incentives for the elderly and tuition loans. The unemployed can be provided with various training activities they wish to undertake regardless of the eligibility for unemployment benefits. It is needless to say that re-employment in secure jobs through opportunities to acquire appropriate skills should be preferred to the passive protection of unemployment benefits.

Should an employer establish training facilities and/or purchase equipment, he or she can apply for a loan or subsidy from the Employment Insurance Fund. With an intention to promoting training within small & medium sized firms, the program will induce joint vocational training by groups and support their financing in order to harness the initiatives and ingenuity of the private sector to provide
training programs catering to the diverse and changing needs of firms. In providing above services, more emphasis is placed, by stipulation in the law, on small and medium sized firms.

In 1997 the numbers of firms and persons who were entitled to the vocational competency development programs was 13,888 and 3,422,444 respectively, 1997. Of the 3,422,444 persons, 48 percent in the manufacturing industry, 1 percent in the agricultural sector, and 51 percent in the service sector (19 percent are in finance, insurance & real estate, 13 percent are in transportation, warehousing & communication, etc.) This ratio indicates that the focus of vocational training will shift from the manufacturing industry to the service sector.

In the same year, 199,880 persons were afforded support from EIS funds: 81,324 persons (41%) in in-plant training, 102,683 (51%) in alternative type of education and training, 5,559 (3%) taking paid leave for education and training, 1,949 (1%) unemployment training, 8,365 (4%) being given a tuition loans. The total expense provided for financial support for the programs was about 59 billion won.

2) Enactment of the Act on Promoting Workers' Vocational Training

As discussed before, the Basic Vocational Training Act including the compulsory training system, contributed to the training of skilled manpower; but it did not meet the changing demands for industrial manpower. In addition, the law constrained enterprises from providing upgrade training to their employees.

The government enacted the Act on Promoting Workers’ Vocational Training in 1997 to establish a system for vocational competency development and to encourage enterprises to provide further training for the employed on a voluntary basis. The act has put into effect since January 1999. With the enforcement of the act, the Basic Vocational Training Act was abolished.
According to the act, the Minister of Labor will provide financial support to employers who implement vocational competency development programs. The Minister also support employees who make an effort to develop their vocational competency, i.e., undertaking the vocational competency development training programs, wanting to acquire a certificate or undertaking programs designated in the Education Law. Governmental agencies or local autonomies may provide training for the unemployed.

The enactment of the law provides a momentum for another take-off in vocational training. Under the act, restrictions on in-plant training practices will be removed, while encouraging voluntary training, demand-oriented training, and upgrading job competency for the employed. The government will play a supportive role as an assistant. The major differences between the Basic Vocational Training Act and the Act on Promoting Workers' Training Promotion are shown in Table 13.

Table 13. Comparison of the Basic Vocational Training Act and the Act on Promoting Workers' Vocational Training

<table>
<thead>
<tr>
<th>Classification</th>
<th>The Basic Vocational Training Act</th>
<th>Act on Promoting Workers' Vocational Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premise</td>
<td>Undertaking training based on a compulsory system</td>
<td>Encouraging companies to provide voluntary training</td>
</tr>
<tr>
<td>Target group</td>
<td>Initial training for school leavers</td>
<td>Vocational competency development for the employed, the unemployed and school leavers</td>
</tr>
<tr>
<td>Training area</td>
<td>Concentrated on training of production workers in the manufacturing industry</td>
<td>Expand to include clerical, managerial and service workers</td>
</tr>
<tr>
<td>Classification of training</td>
<td>Public, in-plant and authorized training</td>
<td>Standard training (based on standards set up by the Minister of Labor) and vocational competency development training</td>
</tr>
</tbody>
</table>

(continued)
<table>
<thead>
<tr>
<th>Classification</th>
<th>The Basic Vocational Training Act</th>
<th>Act on Promoting Workers’ Vocational Training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program</td>
<td>Initial, upgrade, job transfer and retraining</td>
<td>Initial, upgrade and job transfer training</td>
</tr>
<tr>
<td>Training materials</td>
<td>Training materials compiled or approved by the government</td>
<td>Free choice of training provider</td>
</tr>
<tr>
<td>In-plant training</td>
<td>Enterprises with 1,000 or more employees in certain industries are required to provide training or pay a training levy</td>
<td>The government provides all companies financial support for vocational competency development programs</td>
</tr>
</tbody>
</table>


The number of workers trained has increased since implementation of the new training policy under the EIS. In addition, most in-plant training schemes include “advanced” courses, instead of basic training as tended to be the case under the levy system.

However, despite these encouraging results, it would appear that current training programs for the employed suffer from certain deficiencies.

Only a small proportion of the firms that pay contributions to the fund actually provide training for their workers. In addition, Large firms are the main beneficiaries of the training programs for the employed.

It would therefore appear that training under the EIS has not succeeded in increasing substantially training provided by small enterprises. As large firms would, in any event, tend to train workers in the absence of specific policies, it seems highly likely that the training subsidies yield large “windfall” gains to large firms. Although the provision of training is likely to increase with the economic recovery, the
system's effectiveness suffers from the excessive number of programs and the fact that training tends to be concentrated in large enterprises. As in other OECD countries, there is a risk that workers in small firms, once trained, are hired by either another small firm or a bigger one. This risk may be higher in Korea, given the unusually large gap in terms of wages and working conditions between large and small firms. Future policies may consider introducing special financial incentives to encourage training by small firms and some targeting of the programs at older workers, women and low-skilled workers.
References


