

Education Securing Korea's Future

● Korean Economy

South Korea is a developed country and had one of **the world's fastest growing economies** from the early 1960s to the late 1990s. As of 2009, South Korea is **the world's ninth largest exporter**, and has a very high HDI, measuring particularly **high in the Education Index**, where it is ranked first in Asia and seventh worldwide. South Korea is currently

ranked as the most innovative country in the world among major economies in the Global Innovation Index.

The Power and Promise of Standards Education

Education in South Korea is very competitive and competition is consequently very heated and fierce. In the 2006 results of the OECD Programs for

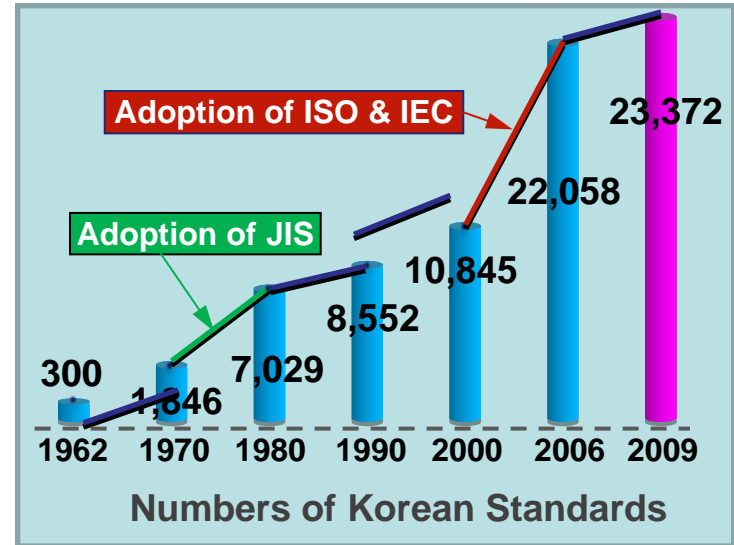
international Student Assessment, South Korea came first in problem solving, third in mathematics and eleventh in science. South Korea's education system is **technologically advanced** and it is the world's first country to bring high-speed fiber-optic broadband internet access to every primary and secondary school nation-wide. Using this infrastructure, the country has developed **the first Digital Textbooks** in the world.

Source : http://en.wikipedia.org/wiki/South_Korea

Why Standards Education?

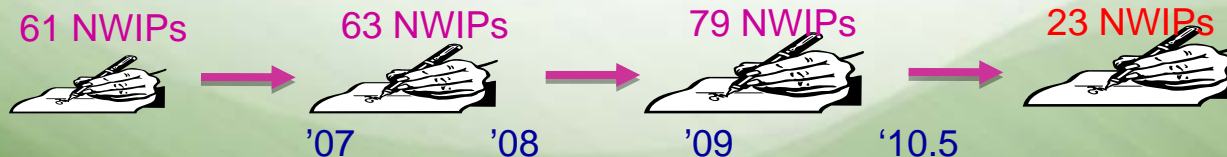
● Awareness on the Importance of Standards & Standardization

- ✓ Lack of participation from local enterprises and professionals
- ✓ Poor preparation for tomorrow's standardization



● Performance in International Standardization Activities

- ✓ Korea has a membership in 80% of ISO/IEC TCs while participating in only 15% of the TCs and only 37 chairmen and secretaries of ISO/IEC TCs('10.5).
- ✓ Korea tries to suggest NWIPs with our own technologies.



National Strategy for Standards Education

Students

- To see and meet “Standards” in daily lives
- To be familiar with standardization in early stages of life
 - Elementary Schools Class, Youth Olympiad of Standards

Experts

- To enhance profits through standards supporting productivity and innovation
- To participate actively in international standardization
- To maintain the reliability of KS certification
 - KS Certification Program, University Programs, Standards Award, International Education Co-operation

Consumers

- To realize the benefits of standardization in daily lives
- To obtain confidence about the safety of products
- To access easily social, and environmental issues
 - Daily Standards Website, Story Books, TV & Newspapers Special Programs

“Meet Standards” for Elementary School

● Purpose

- **To help students be familiar with standards in order to get accustomed to social rules**
- To encourage teachers to collaborate on experience study with standards
- To develop a more effective system to educate standards and standardization



● Strategy

- To enjoy learning standards
- To communicate with students effectively
- **To develop teaching-learning materials based on National Textbook**

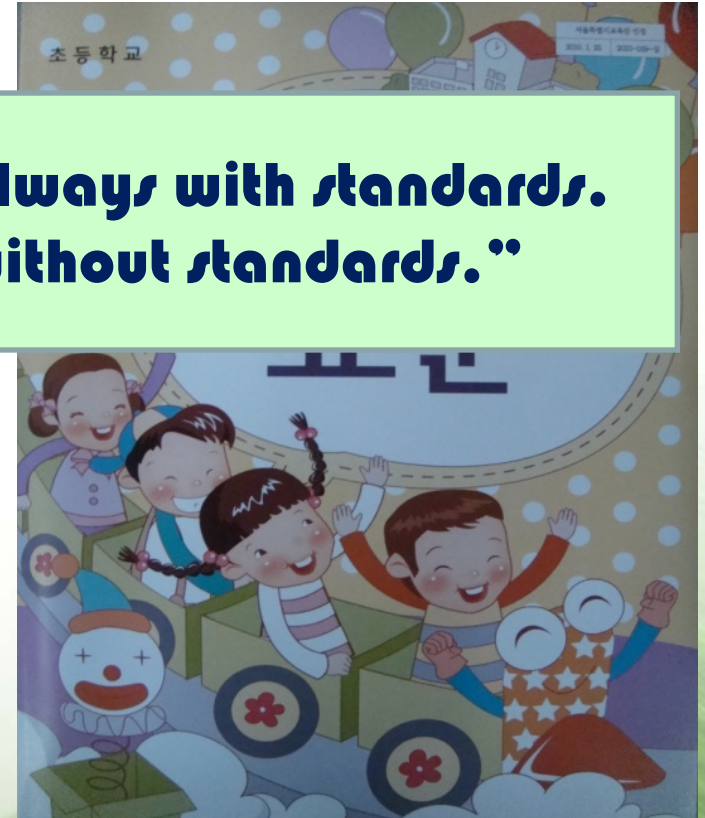


“Meet Standards” for Elementary School

- **Program started in the second half of 2008**
 - By the end of 2009, 5,280 students in 54 schools
 - In the first half of 2010, 2,348 students in 35 schools
- **Guest teachers of standards experts**
 - To show that standards are a part

“I haven’t realized that I am always with standards. Now, I can’t image a day without standards.”

- **Textbook for Elementary School**
 - “Standards in Daily Life”
 - Chapter 1. Why standards?
 - Chapter 2. Our lives with standards
 - Chapter 3. Daily standards
 - Chapter 4. Our promise, standards



“Explore Standards” for Middle & High School

● Purpose

- To bring standards to the real life
- To explore the standards world
- To recognize outstanding achievement using standards

● Strategy

-

“Explore Standards” has students understand factual or fundamental information of standards.

-
- To compete for the “Standards Olympiad”

● Regular curriculum by 2011

- “Technology & Housework” for middle School
- “Engineering & Technology” for high School

● “Standards Olympiad” since 2006

- 1,200 students participating in



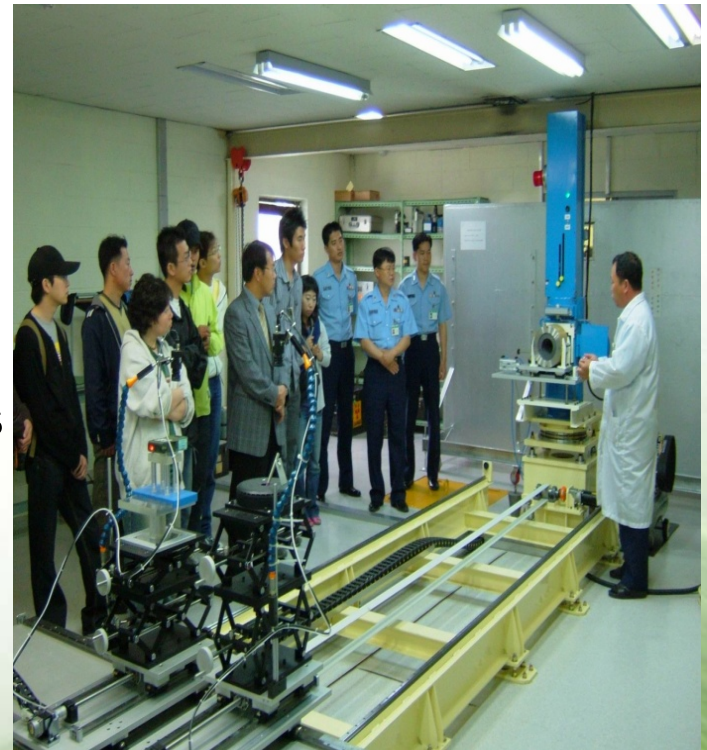
University Education Program on Standardization(UEPS)

● General

- “University Education Program on Standardization” started in 2004.
- Best practice program by university, expert group, KSA*, and KATS
 - * KSA: Korean Standards Association / SEDC: Standards Education Development Committee
- One-semester class for 2 or 3 credits (32~48 hr.) or on-line lecture

● Lecture

- With a single unified textbook and a team-teaching methodology
- Case study-teaching by standards professionals from industries, standards agencies, academics and government
- Field trips to research institutes / labs / companies



University Education Program on Standardization(UEPS)

●Textbook

- “Future Society and Standards”



Ch 1. Standardization Overview

Ch 2. International Standardization

Ch 3. Industrial Standardization in Korea

Ch 4. Enterprises and Standards

Ch 5. Measurement and Reference Standards

Ch 6. Conformity Assessment

Ch 7. Standards & Intellectual Property Rights

Ch 8. Future of Standardization

University Education Program on Standardization(UEPS)

● Lecture on the standardization



● On-line Courses

05 | 제3장 | 우리나라 표준화 (1)

Review

MAP보기

Print하기

미러사회의 표준

미러사회의 표준

Print하기

미러사회의 표준

an Industrial Standard)

Course Intro.

오늘은 학습방 내용을 함께 살펴보겠습니다.

Contents

Today's theme

Quiz

Review

Intro

교수소개
Chapter 소개
학습목표 소개

Today's lecture

1. 한국산업표준(KS)
2. 시대별 산업발전과 KS

Quiz

Quiz

Review

○ 학습장리
다음주차 예고

이론기 중 생활을 편리하게 하고, 수출입에 유리하게 하는 규격이 있어야 하고 규격업들은 규격을 잘 지키려 하는 것이다. 같은 사회의 규격을 각종 법률이라고 한다면 산업활동의 규격을 표준이라 할 수 있다.

— 우리나라의 산업활동의 기준이 되는 것이 한국산업표준(KS)이다. KS는 1962년도 300종이 제정된 이래, 2007년 말에는 22,760종이 제정되어 각종 산업활동의 기준이 되고 있다. 정확하게 알고 있는 사람은 그리 많지 않다. 일반 사람들은 국가표준이 자연발생적으로 생성되어 우리가 무관하게 사용하고 있는 것으로 잘못 이해하고 있는 것이다.

— 이번 시간에는 일반적인 국가표준을 제정·보급함으로써 1) 상품이다. 2) 사람의 품질과 품질이 생산품의 향상 및 생산기술 혁신, 3) 국가의 경쟁력, 4) 소비자 보호, 5) 무역을 위하여 우리나라 산업경쟁력을 향상시키고 국민경제 발전에 기여하고 있음을 먼저 이해하고,

— 산업활동의 모든 분야에 대하여 표준수준, 절차, 방법, 기준 등을 정하여 우리 모든 국민이 편리하게 적용하고 있는 KS에 대하여 정확하게 이해하고, 시대의 발전과 함께 제정·보급된 KS의 종류는 어떤 것들이 있는지에 대하여 알아보면서 미래의 표준화 방향에 대해서도 생각해 보아야 할 것이다.

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CCO 열린사이버대학교 OPEN CYBER UNIVERSITY

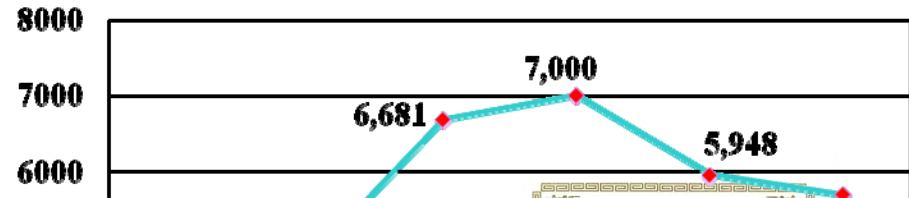
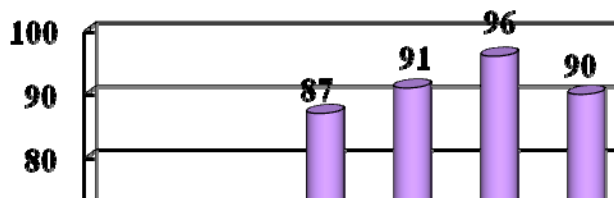
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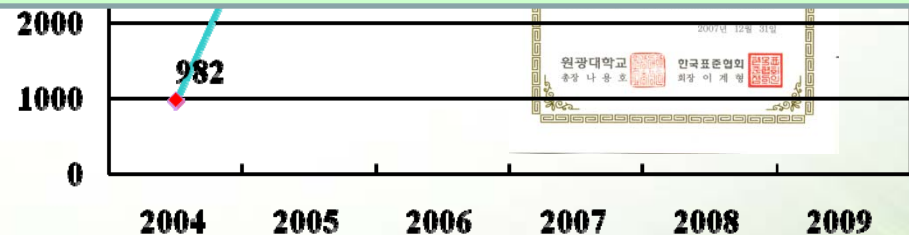
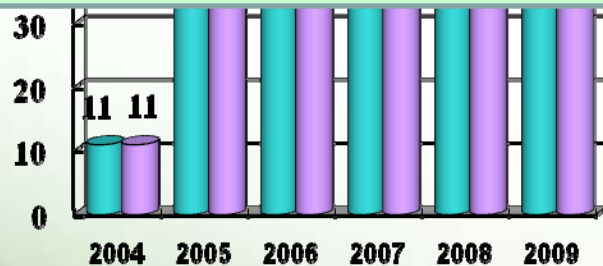
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University Education Program on Standardization(UEPS)

● University & students participating in UEPS



UEPS is an outstanding example for cooperation between academia and standardization organization.



■ N. of Univ.

■ N. of Courses

◆ N. of students

* These numbers are limited in the general course of university standards education.

Customized Standards Education



Education in standardization to foster future standards experts

Customized Standards Education

● Professional Training for Specific Experts

➤ Purpose

- To Improve the ability for developing standards in the specific area
- To adapt their own business to standard-environment

➤ Audience: Specific experts, graduate students

➤ Lectures

- 1st step program(2008)
 - Electric & electronic standardization
 - Information standardization
- 2nd step program(2009)
 - Mechanics standardization
 - Environment standardization



Customized Standards Education

● Professional Training for Generalists

➤ Purpose

- To improve the ability for developing and facilitating standards
- To establish strong basis for international standardization activities

➤ Audience : Anyone in business, research institutes, public organizations

➤ Lectures

- Strategic application for international standards activities*
- Global standardization leader practice*
- International standardization procedure
- Practical English in international standardization meetings*
- ISO e-Service education**

* This program is served by on- and off-line lecture.

** This program is served only by on-line lecture.



Customized Standards Education

● International Standard Infrastructure Cooperation Program (ISCP)

- To share Korea's experience in the field of standardization and conformity assessment
- To help enterprises and manufacturers to utilize standardization

| Types of Program | Areas | Attendees | Duration |
|----------------------|---|--------------------------|-------------|
| Invitational Program | policy making | top officials | 1 week |
| | | regulators | 2 week |
| | standardization regime | managers | 2 weeks |
| | legal metrology | managers | 2 weeks |
| | conformity assessment | managers | 2 weeks |
| | testing capability : electric & electronics , energy, environment, chemical, material | technicians engineers | 1-2 week |
| On-site Program | legal metrology and measurement standards for new areas | managers technicians | 1-2 week |
| | conformity assessment and standardization system | engineers | 1-2 week |
| On-the-Job Learning | In-depth study for standardization | managers | 3-10 months |
| | operation of conformity assessment system | | |
| Dispatch of Experts | conformity assessment system establishment | managers technicians | 1-3 months |
| | capacity building for standardization | engineers | |

Standards Education Activities

● Number of People Participated in Programs

(unit: people)

| Program/Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | Total |
|----------------------|-------|-------|-------|-------|-------|--------|--------|
| Business | 287 | 329 | 150 | 249 | 181 | 150 | 1,346 |
| Consumers | - | - | - | - | 151 | 85 | 236 |
| University | 982 | 4,830 | 6,681 | 7,500 | 5,948 | 5,693 | 31,634 |
| High & Middle School | - | - | 119 | 270 | 240 | 240 | 869 |
| Elementary School | - | - | 98 | 240 | 970 | 4,318 | 5,626 |
| Total | 1,269 | 5,159 | 7,048 | 8,259 | 7,490 | 10,486 | 39,711 |

* These numbers are limited in the regular courses.

Annual Budget for Education Program

● **Funded by the government (KATS)**

● **Annual Budget**

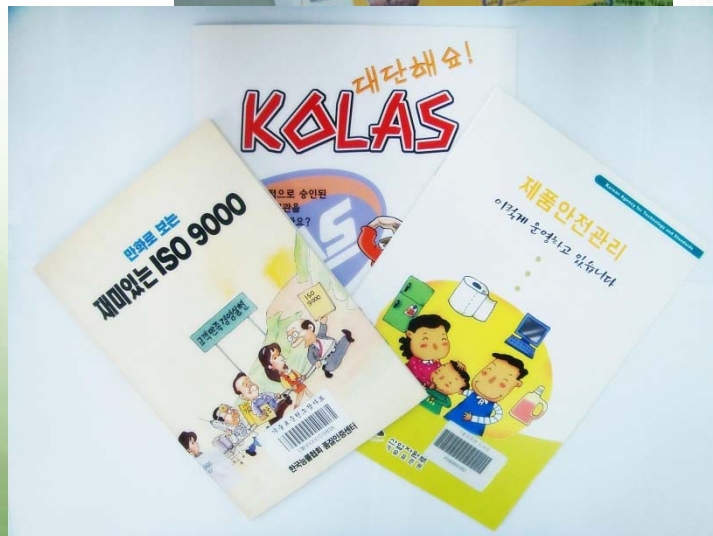
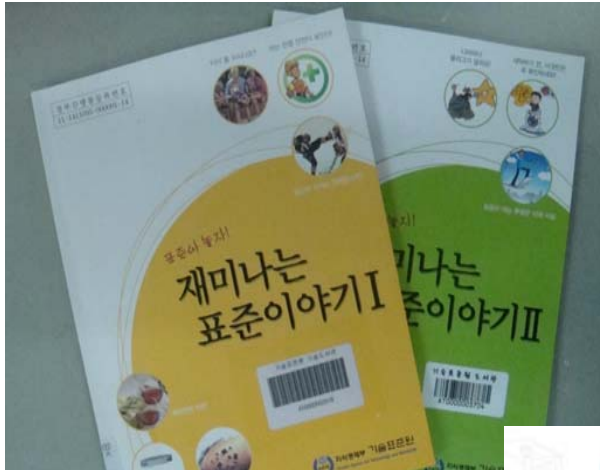
Unit: US\$

| Year | 2006 | 2007 | 2008 | 2009 | 2010 |
|----------------------|----------------|----------------|----------------|----------------|----------------|
| Total | 600,000 | 727,000 | 750,000 | 747,000 | 743,000 |
| - University Program | 560,000 | 610,000 | 580,000 | 560,000 | 500,000 |
| - Elementary Program | - | - | 33,000 | 17,000 | 83,000 |
| - Other Programs | 40,000 | 117,000 | 137,000 | 170,000 | 160,000 |

* Rate : US\$1=1,200 KRW

Boosting Standards Education

Public Advertisement for Standards Education



Where to Go Standards Education?

Education Beginning from Childhood



International Cooperation



Where to Go Standards Education?

Education Beginning from Childhood

- **Raising Awareness on the Importance of Standardization**
 - ✓ For kids & elementary students
 - ✓ Voluntary & active learning
 - ✓ Value-oriented learning
- **Visible & Tangible Education**
 - ✓ Experiential learning
 - ✓ Virtual class

Game, Camp, Olympiad, Field trip, Experimental , On-site training

International Cooperation

- **Sharing Our Experience**
 - ✓ Especially for standards infrastructure
 - ✓ Deliver practical information
 - ✓ Meet the requirements of demanding countries
- **Educational Exchange Courses**
 - ✓ Development of various programs
 - ✓ Customized education

Invitational program, On-site program, On-the-job learning, Dispatch of experts

Thank you