

A Korean Model of Educational Development*

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I. Introduction

Since part of this conference is to be organized to examine the educational development of Korea as a case for the discussion of Indonesian long-range educational planning, an examination of the Korean model of educational development seems to be a appropriate topic. Unfortunately, however, there have been few systematic studies of the Korean pattern of educational development. There isn't any agreeable Korean model of educational development. Therefore, this paper intends to briefly overview changing process of educational systems, focusing on the main reasons and problems identified. In order to meet the purpose of this conference, a brief descriptions will be made on the problems and issues of Korean educational systems and educational reform proposals made recently. This paper will conclude with some lessons from Korean educational development.

II. Educational Systems Development

Instead of systematic description and analysis of the changing and developmental patterns of Korean educational systems, this paper will briefly indicate the general characteristics of educational systems and changing patterns, keeping in mind of the achievements and problems of Korean education. Under the

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heading of educational systems development, three aspects of the system will be examined.

A. School Systems

School systems was legally established in 1949 by the Educational Law and was enacted from 1950. In the course of developing school systems, emphasis were given to democratic principles of education, equality of educational opportunity, and promotion of enrollment expansion as much as possible. American type of 6-3-3-4 system was taken as a backbone of Korean school system from the beginning of the independent Korean government.

As a reaction to the Japanese colonial control of education which allowed only a limited access to schooling under double-track school system, the democratic ideals of education became one of the two major guiding principles of education under the influence of U.S. military government. Nationalism was taken as another ideology since the republic of Korea was established in 1948.

The backbone of 6-3-3-4 system has been maintained for last 45years, and only supplementary changes were added to the basic structure of the system, reflecting newly emerging educational needs. These changes took place in four areas.

a. Upgrading teacher training for elementary school teachers from normal high school, to two years junior colleges and finally four years teachers colleges.

b. Short-cycle technical higher education has taken several forms : 5years technical school broke down into two categories. One became 3years vocational high schools and another became two years technical school. Another form was two years junior colleges. Technical schools and junior colleges became 2-3 years technical colleges. So, the Binary policy of higher education resulted in two main sectors of higher educational institutions : Universities/colleges and technical colleges.

c. The ideals of continuing education has been institutionalized with

- Air-correspondence high schools attached to high schools
- Special high schools established by industry for their employees
- Air-correspondence university was established

d. As educational opportunities expanded and enrollment grew, various kinds of institutions which provided supplementary edu-

cational opportunities for those with no or less education became ceased.

In running the school systems, Korean education have tackled two kinds of problems. One is the problem of selecting graduates from lower level of schools to upper level of schools. The other is the problem of specifying the operation of high school system.

Under the strong demands for higher level of education, the examination systems became overloaded and dysfunctional means controlling lower level of education. Until now, we couldn't find any reasonable examination system to satisfy Korean parents. The examination system becomes always target of criticism and educational reform. In 1950's there was a exam hell in elementary schools. The first exam reform was made in 1968 by abolishing entrance examination to middle school, assigning all applicants randomly to middle schools within each school district. In 1973 another reform was made to alleviate the exam-hell in middle school by expanding the place in high school and assigning applicant randomly to high school within the cluster of academic high schools beginning from the large cities. This reform is named with "High school equalization policy". Vocational high schools select the candidates from middle schools. This selection for vocational high school is made prior to the exam to general high school under high school equalization policy. Students are highly pressured and driven by the expectations of their parents and teachers. The learning process overly emphasizes cramming because of multiple choice questions on entrance examinations. Education dominated by the preparation for college entrance examinations also exhausts students in body and mind. In this respect, Korean education, for some critics, has long been an "entrance examination hell".

Another problem is closely related to the first problem of exam-hell in Korean schools. General high school's education has been distorted with exam oriented instruction and learning in spite of the fact that only one-third of the applicants could enter to higher educational institutions. Higher education, naturally, is the ultimate target for educationally motivated people. Recent statistics show that over 93 percent of Korean parents expect their children to enter colleges or universities. Every year, more than 800,000 applicants, a size larger than the total number of new high school graduates, take college entrance examinations, against only 300,000 available admission seats in colleges and universities.

These figures indicate the extent of the people's excessive aspiration for higher education and for the inevitably competitive nature of the admission race to colleges or universities. In reality, three-fourths of all high school students participate in preparatory programs for college entrance examinations. In the end, only one-third of them succeed. The rest must leave school with great dismay.

A huge number of graduates (about 300,000) who have failed in college entrance examinations continue preparatory work for the examinations in the following year. They are called "(exam) repeaters," representing a large number of adolescents with a doubtful future. Each year, the number of repeaters has been increasing.

B. Governance and financing of Education

The governance of education is shared by the three branches of the government: the executive, the congress and the court. Under the executive branch, Ministry of education (MOE) is responsible for policy-making and administration of education at central government level. MOE directly control higher education sectors and direct general guidelines for elementary and secondary education which are under administration of provincial Board of Education (BOE).

During the 1950's MOE hadn't developed enough control functions. Therefore, individual schools and university could enjoy autonomy in running their schools. Since the 1960's, however, centralized policy-making and top-down planning approaches taken by the MOE left little rooms for autonomy at school level. Autonomy in education at various level and dimensions was identified as one of the goals for educational reform today.

In financing education, Korean education has benefited with two approaches in securing financial resources for education: one is to secure educational budget for compulsory and secondary education by law and the other is to charge tuition and fees to parents even in elementary and secondary education. This policy is called "the principles to pay by those who benefits".

In 1958, the law of educational funds for compulsory education was enacted to support the 6 years plan for accomplishing for compulsory schooling. In 1968, the law of supporting secondary education was enacted to support secondary education under BOE. In 1971, these two laws were integrated and evolutionary

changed to the "law to support to elementary and secondary education". The establishment of this law is a significant development for Korean education.

This law opened the beginning of allocation fixed percentage (12.98%) of total domestic tax for education and distributed among Provincial Board of Education(BOE) as an equalization fund. As Korean economy has grown steadily this funds provided stable incomes for education. During the oilshock period in the early 1970's, this law was suspended temporally, and the deficits accumulated during the 1970's has been covered by the new temporal(5 years period) educational tax during 1980's. The term of this new educational tax was extended two times during 1980's. In other to improve the educational conditions of elementary and secondary education this temporal education tax was added with national defense tax collected by local government and developed into "the transferring funds to local education". With this change, total educational budget for local education increase by almost 20% in 1992.

C. The Examination System

Our current entrance examination system for higher education is based on the so called "7.30 Education Reform" of 1980, which brought a new screening method based on a new formula that combines college entrance achievement tests scores and high school records.

The entrance examination system of the 1970's required students to take two types of examinations : one was a College Entrance Qualification Test(CEQT) administered by the Ministry of Education(MOE), and the other one was University Examination Test(UET), administered by individual college and university. The UET was given to those applicants who first passed the qualifying exam(CEQT) and who submitted applications to the colleges or universities which they wished to enter.

In the late 1970s, some serious problems were perceived in the existing dual entrance examination system. First, the CEQT did not play a screening role as expected with inflating the ratio of students who passed the test. The CEQT was designed to select qualified applicants to the tune of 150 percent of the annual enrollment capacity.

Most selective colleges and universities welcomed that policy. But some institutions opposed it for fear that they would not have

enough applicants to fill the quota. For some institutions this fear came true. The government later expanded the ratio of CEQT-passing applicants to 200 percent of the original enrollment capacity. The rule applied also to two-year junior colleges. This expansion resulted in over 80 percent of applicants for CEQT passing the examinations. Thus the original intention for quality control had been lost.

The subject areas included in University examination test were reduced from several broad subjects to a few core areas, thus causing high school education to focus on narrow subject areas. The rationale for University examination was based on the claims that each higher education institution should have autonomy to some extent in selecting their own entrant, appropriate to the unique standard and characteristics of each institution. Each college and university was recommended to decide on the number of subject, including core and selective subject areas. However, the trend had moved in a reverse direction. Most institutions tended to limit the number of subject areas for University examination to mainly three areas: Korean language, mathematics, and English. As a result, the goal of general education for the development of the "Whole person" became damaged by such unbalanced emphasis on limited subjects. That is, other subjects excluded from the required list for University examination were treated as peripheral courses even though they were included as a core part of the high school curriculum.

With growing concerns over the problems about the existing entrance examination system, the government, backed up by a new military power group, proposed a radical reform in 1980. This was the so-called "7.30 Education Reform," which attempted to depart from the old system drastically in four ways.

First, it was designed to transfer the control over selection processes from higher education institutions to the government. Second the reform was intended to replace the College Entrance Qualification Test(CEQT) with the College Entrance Achievement Test(CEAT). The nature of CEAT was basically the same as the CEQT in that it was a subjects-specific multiple choice test. The number of CEAT subjects were 16-17.

Third, a High School Records System (HSR) was mandated for application to colleges or universities. Colleges and universities had to reflect HSR, at least 30 percent of the total score, in screening their entrants. Since 1979, public colleges and universi-

ties began to ask applicants for their high school records. In the reform, all colleges and universities were required to take into account the HSR as screening data. Furthermore, the government recommended that higher education institutions increase the proportion of HSR gradually every year.

Fourth, college and universities were allowed to select an additional 30 percent of candidates over the graduation quota. This meant that if a college or university selected 30 percent in excess of their assigned quota, proportion of students beyond enrollment quota had to be dropped before their graduation. This policy was called "Graduation by Quota" policy.

In relation to CEAT, two problems were raised. First, it was argued that 16-17 CEAT subjects were too many. Students were overly stressed by an excessive learning load. Second, it had been disputed that the multiple choice questions exclusively used for CEAT could not hardly emphasize objectives such as independent thinking, inquiry skills, and, among other attributes, creation of a well-rounded personality.

III. Problems and Issues of Education

On the contrary to outsider's view of Korean Education, most Korean believe that education became an obstacle toward national development rather than contributing factor. Education is supposed to be most important means to develop human resources. We are not sure of how and what human qualities education contribute to development.

Most policy-oriented studies and educational reform reports had paid special attention to identifying problems and issues of education. Their treatment of problems and issues are rather descriptive than analytical. Recently, the Presidential Commission for Educational Reform(PCER) and the Presidential Advisory Committee on Educational Policy(PACE) identified educational problems and issues of education in six categories as follow ;

A. Examination-oriented Education

As teachers gear instructional programs to preparing for examinations, rote-learning and memorization dominate classroom instruction. They naturally focus on drills on subject matter to be contained in the examinations to the virtual exclusion of reason-

ing, and critical thinking. Extra lessons carry youngsters through grinding works well into the night. All of these are designed to cram into the head fragmentary knowledge which is likely to be included in the examination. Amid primary concern for the volume of information retained, teachers lose sight of the inherent goal of education. Education of the whole person can no longer find its place in the curriculum. No opportunities are provided to nurture moral quality and aesthetic sensitivity. Extra-curricula activities are given little treatment, and hours set aside for home room are far from providing a significant degree of exposure to inter-personal contacts. The library holding a poor collection of materials hardly gives any materials other than textbooks. Content, method, administration, and management practices, dearth of materials, and environment combine to build a climate hindering individual efforts for character-building and self-perfection.

Youngsters suffer emotional instability, which deprives them of interest in or motivation for learning. Consequently, they become the slaves of examinations, and deprived of an opportunity to make the best of their prime time in life, they end up burning important bridges to the future.

B. The Uniformity of Education Programs

Educational programs which are presently offered by schools run counter to the necessity of meeting individual differences in interest, ability, attitude and other personal attributes. The practice of exam-oriented instruction and learning has prevailed in elementary and middle schools even after the abolishment of entrance exam to middle school and high school equalization policy. In high school education, the equalization policy created another form of problematic situation.

They ushered in new problems associated with the emergence of learning groups with diverse backgrounds and abilities. The problem was further complicated by assigning them to teachers stubbornly adhering to a conventional instruction method geared to average learners. Fast learners are looked in unable to advance rapidly, while slow-learners are left behind. Flexible grouping according to learning ability is virtually excluded. Although there are supplementary programs, they are simply the extension of a normal program. One-third of the learners are abandoned to accumulate learning deficiencies beyond the point of being remedied. The result is reflected in the low achievement level. Their

potential for growth is untapped and an island of excellence is submerged in seas of underachievers. Besides the uniformity of programs, the irrelevant curriculum and textbooks, invalid evaluation and poorly prepared teachers deserve mention as additional causes of problems.

C. Heavy Teaching Load and Low Teacher Morale

In elementary and secondary schools, teachers are over loaded with large class-size and teaching hours per week. According to 1990 estimates, the teacher pupil ratio is on the average is 35.5 in primary school, 25.3 in middle school, 24.6 in high school, and 31.1 in university or college. Primary and middle school teachers have 24 hours of teaching per week ; this drops to 20 hours in high school. Besides the regular hours of teaching, teachers give added hours of extra lessons in the name of supplementary or enrichment programs, and carry non-instructional clerical works.

Most prominent among complaints leveled by teachers is their low socio-economic status, as they perceive it. Realistically, however, in view of the rather honored status of teachers in Korean society, the problem may not be so much their low economic status as how teachers perceive their role. In general, many fail to see themselves as professionals with a broad perspective including non-monetary factors, and consequently their lack of commitment to teaching youngsters is a more fundamental problem underlying this poor perception of themselves.

Yet, the economic status of teachers, measured in monetary terms, deserves more attention. The general level of remuneration has improved steadily, but is still is unfavorably compared with salaries of other occupations, salary scale fails to provide incentive to promoting the professional quality of teaching.

Schools are at the bottom in administrative hierarchy. All orders from above converge down upon them. Orders require written answers from school administrators, confirming compliance ; they require documentation of teacher's action.

D. Poor Educational Facilities and Environment

The chronic shortage of physical facilities has resulted in oversized schools and over-crowded situations mostly in urban areas. Consequent problems on the primary school level are aggravated in secondary schools. In the case of middle schools in large cities 48.3 percent of the classrooms accommodate more than 60 pupils

per class. This figure rises to 85.9 percent in high schools. In large cities 34.4% of the total accommodates more than 36 classes. When schools are over-sized, double shifting is introduced. There are 6,019 primary schools which still are burdened with double shifting. Physical facilities lack adequate space for education. The shortage of physical facilities is more serious in terms of science laboratories : shops, library and special rooms.

E. Bureaucracy and Authoritarianism in Administration

Administrative authorities should find out their *raison d'être* in supporting and encouraging educational activities in schools. This should be the central focus of administration, namely promotion good teaching in schools and classrooms. While administration has undergone an evolutionary process of development, it has moved far from its primary role of service and now dominates teachers absolutely, making them subservient. Control and command have created a hierarchical order, placing teachers at the bottom rung of the ladder. Uniformity is equated with efficiency, and progress is measured in quantitative terms to engage the attention of higher authorities.

The centralization of power is pointed out as another weakness, as it often discourages local initiatives and creativity. The administrative structure and the way in which authority is exercised hardly ensure local autonomy which is needed to make the educational system responsive to the diverse needs of local schools. The lack of enthusiasm on the part of schools for a creative and rational approach to school operation is another problem of special concern. Schools are left with no alternative to being directed by administrative authorities. Passivity pervades every aspect of the school operation, and it is not surprising that teachers have been reduced to mere messengers under orders and directives. This passivity is invariably passed on to students.

F. Mistaken View of Education

The burning desire of Koreans for education which has few parallels anywhere in the world is the major driving force for national development. On the other hand, it has led to blind pursuit of education with a narrow interpretation of its goal. It created a trend to view education as a mere vehicle for advancing to the next higher level of schooling and gaining a diploma.

The grade which pupils made in a test erroneously becomes the

only indicator of their potential for growth. The quality of education is believed to consist in the number of successful applicants that a high school sends to prestigious universities. There emerges a fierce competition among schools for obtaining this label. Pupils are gripped by the fear of what will result from failure to make higher grades, and schools become a field of competition for survival. In the early stage of development, children are exposed to a ruthless world of competition.

This mistaken view of the purpose of education is manifested in a "rush to universities" and in a hierarchical ranking of universities. Each year also sees increasing number of repeaters joining the rank of candidates, making entrance more competitive. Areas of major study for a college degree are selected by the expediency of obtaining entry, irrespective of their applicants' aptitudes.

Over-heated enthusiasm for education is manifested in over emphasis on the level of education attainment as an almost exclusive indicator of employability and of other social competence. One's college degree is even foolishly considered the indicator of character and personality. So strong is the parents' pride that they demand more and more education for their children, willing to bear whatever the cost. This enthusiasm has been an asset, as the underpinning of national development. It should be noticed, however, that it rather becomes a liability, when it encourages a blind pursuit of education irrespective of one's aptitude and interest of even possibly burn-out. The mistaken view of education misguides the aggregate potential of people in the wrong direction, thus giving rise to problems incapacitating the educational system.

IV. Educational Reforms and Policy Proposals

In 1985 the Presidential Commission for Educational Reform (PCER) was created to study and develop educational reform proposal for the education in 21st century. PCER was the Korean version of "The Nation at Risk" in United States and National Commission on education in Japan for educational reform.

A. Areas and Tasks of Educational Reform

The Presidential Commission for Educational Reform, besides setting the primary goal of educating people to fit the ideal profile

of an educated Korean envisioned in the 21st century, set the general direction for the reform of education and defined the general direction for the reform of education. These general directions include: 1) reform of the educational system in its entirety, 2) upgrading of the quality of basic education, 3) enhancing the quality of higher education, and 4) setting the stage for educational development. A subcommittee was organized for each area of education innovation. The four subcommittees identified 42 specific tasks to be performed in the four areas in accordance with Korean Educational Ideology and Goals of educational reform.

Establishment of Korean Education Ideology, Goals and Directions of Education Reform

- General Goals and Aims of Education Reform
- Directions and Strategies for the Reform of Primary, Secondary, and Higher Education
- Non-Formal Education

Selected Policies for Education Reform

- Modification of the Basic School System
- Reform of the Entrance Examination System
- Increasing Autonomy of Education Administration
- Development of Gifted and Talented Students
- Innovation of Science and Technology Education
- Strengthening Computer Education in Schools
- Feasibility of an Education Broadcasting System
- Development of Career Education
- Development of Education Programs for the Information Society
- Establishment of a Life-long Education System

Upgrading the Quality of Basic Education

- Promotion of Kindergarten Education
- Extension of Compulsory Education to Middle School
- Updating of the School Curriculum and Textbooks
- Improvement of Foreign Language Education
- Innovation of Vocational Education
- Promotion of Guidance Programs for Youth
- Improvement of Teacher Preparation Programs
- Promotion of Education for Korean Residents Abroad

Pursuit of Excellence in Higher Education

- Upgrading the Quality of University Education
- Upgrading the Quality of Graduate Education
- Promotion of Junior College Education
- Improvement of the Quota System
- Reform of the Entrance Examination
- Promotion of Colleges and Universities in Non-metropolitan Areas
- Upgrading Criteria for Physical Facilities and Equipment
- Establishment of School-industry Cooperative System
- Development of Education Programs for Global Understanding

Foundation for Education Development

- Innovation of Teaching Methods
- Promotion of Special Education
- Improvement of Education Environment
- Promotion of Life-long Education
- Maximizing the Efficiency of Education Administration
- Diversification of Financial Resources for Education
- Indices for Education Development
- Increasing the Effectiveness of Education Financing
- Modernization of Educational Facilities and Equipment
- Promotion of Non-formal Education

Out of the defined tasks, the Presidential Commission for Education Reform advanced ten major tasks which deserve higher priority. There are called 'Highlights of the Education Reform'.

- 1) Modification of the Basic School System
- 2) Reform of the Entrance Examination System
- 3) Improvement of Education Facilities and Environment
- 4) Enhancement of Teacher Quality
- 5) Revision of the Curriculum and Teaching Method
- 6) Strengthening of Science and Technology Education
- 7) Pursuit of Excellence in Higher Education
- 8) Institutionalization of Lifelong Education
- 9) Increasing Autonomy of Education Administration
- 10) Expanding Education Investment

PCER, as an ad hoc committee to the president, proposed

44 kinds of policy proposals and submitted the final report under 10 major heading in 1987. In 1988, the sixth government gave the top priority to implementing the educational reform. Two new advisory committees were created. The National Commission of Education (NCE) as a standing advisory committee to the Education Minister and The Presidential Advisory Committee on Educational Policy (PCEP) as the successor to PCER. The NCE has been nothing more than nominal commission but PCEP proposed significant and important policy developments. So far, PCEP submitted 30 kinds policy proposals. The titles are as follows :

- Awarding university degree by examination
- Establishment of educational TV broadcasting system
- Improving the high school equalization policy
- Comprehensive planning of teacher training/appointment
- Normalization of high school education
- Improvement of vocational education in secondary education
- Improvement of university education
- Diversification of higher educational opportunities
- Supporting private education sector
- Improvement of entrance examination system to university
- Education for national unification
- Reducing regional gap in educational opportunity
- Development of high-level manpower
- Important of morality education
- Improvement of educational welfare system
- Improvement of social education
- Expand in the financial resources for education
- Improvement of science/technical education
- International education
- Improvement of the quality of compulsory education
- Policy towards to autonomy in higher education
- New system for education-industry cooperation
- Relocation of higher educational institutions

It is too early to make any systematic evaluation of the educational reform in Korea. I could indicate some characteristics of educational reform movement. Generally speaking, out of 44 reform proposals by PCER and 30 proposals by PCEP, only some were taken seriously and implemented by MOE. They are :

(1) Reform of high school system : this project was initiated by MOE for the purpose of cooling down the demand for higher edu-

cation and providing more technical manpower to industry. Vocational guidance, reducing the size of general high school enrollment, expanding technical educational program are included in the package as a major component.

(2) Improvement of the school facilities in elementary and secondary education :

(3) Changes in teacher recruitment and promotion policy : These two program were implemented as urgent policy program to cope with the teachers movement to organize teachers union in 1988.

(4) Implementation of the system of educational autonomy at provincial level :

(5) Improvement of the entrance examination system to university.

Opinions are divided whether these projects are to be contributing to improve our education. The sixth government has been proud of implementing the educational reforms. MOE specified educational reform proposals into administrative tasks and allocated them to each departments. In that process the "totality" of educational reform was missing. Public can hardly feel the real changes of reforming Korean education and are not sure of why and which direction we are going.

The educational reforms proposed by PCER and PCEP have not focused the "critical core" of the structure of educational problems. The proposals dealt with most dimensions of Korean education. They were not really educational reform proposals, nor comprehensive planning of educational development, because of its lack of strategic approaches.

PCER and PCEP had paid attention to the necessity of developing supportive functions of other Ministries to the development of education, because of its access to the President. They recommended relevant administrative tasks to be carried out by the Ministries such as EPB, Finance, Labor, Commerce and Industry, General affairs and Mass media. The cooperative-administrative tasks seemed not to be enough to support desirable changes for our education.

V. Educational Development Reconsidered

A. Retrospect

Korean government have attempted several educational reforms and undertaken intensive educational planning approaches. Some accomplished significant outcomes, while the others created another educational problems. I will just indicate the most significant cases.

a. In 1950s, the establishment of 6-3-3-4 school systems and "the six-year plan of accomplishing compulsory education" contributed to promoting enrollment expansion and expand the infrastructure of human resources development in 1960s and 1970s. In terms of enrollment, the six years compulsory education was accomplished in six years by this plan just after Korean War. Ironically, the laissez-faire policy of higher education in 1950s created the basis of modern Korean higher education.

b. The abolishment of entrance examination to middle school was recorded as the first educational reform in Korea. As mentioned before, this reform contribute to normalize the elementary education and to expand enrollment in middle school and high school three years later.

c. As the second educational reform, the "High school equalization policy" contributed to normalize the middle school education in the early stage of that policy implementation. However, due to the bottle-neck to higher education, this policy lost its effects on normalizing middle school education under exam-oriented instruction and learning systems.

d. The "so-called 7.30 educational reform" would be the third educational reform. This reform was formulated in the transition period after the fall of Park's government under the new military leadership. This reform is package of three major policy changes. The most drastic aspect of this reform was abolishing University Examination Test administered by each institution, which is blamed to promoting the necessity of private tutoring, and prohibiting private tutoring, for exam-preparation. The second drastic aspect was to replace the "place quota for admission" with "quota for graduation". Each university or college was allowed to take applicants based on "quota for graduation" that is 130% of the

“place quota for admission”. But this size of 130% has to be reduced to 100% by graduation point. This change in enrollment quota increased enrollment size of higher education, but brought about lots of troubles in universities during 1980s. Thirdly, the education tax, as a supplementary revenue was established and teacher’s college was upgraded from two years to four year-college.

B. Lessons from Korean Experience

(1) In retrospect, the development of infra-structure of human resources development by rapid enrollment expansion is often indicated as the most important contribution Korean education has achieved for national development. And, the low-cost approach to expand the enrollment at the expense of educational quality is considered as significant contributing factor at least at the first stage of educational development in Korea.

(2) By unintentionally allowing the private sector of education to meet the increasing demand for education in 1950s, Korean education could take benefits from peoples commitment to education without investing public financial resources.

(3) Equality-oriented educational policy, with the low-cost approach, abolishment of entrance exam to middle school, high-school equalization policy, and extending of compulsory education from rural areas, contributed to develop also the infra-structure of human resource development.

(4) In the aspects of educational system development, three factors seemed effective means for efficient utilization of educational resources. This view might be valid only in the short-term perspective. Since the 1970s, we have witnessed the dysfunctional symptoms caused with this efficiency oriented governments policy, planning and control. These three factors are as follow :

- a. development of single track 6-3-3-4 school system
- b. financing system which secure stable financial resources for education for developing the infra-structure of human resource development.
- c. The government and administration system of more efficiency oriented top-down planning and governments control in 1960s and 1970s.

(5) The Korean approaches characterized with its equality-oriented policy, quantity oriented low-cost approach and efficiency oriented planning and control approaches, had played relevant

role only in the expansion period of Korean education. Looking into the future, however, these orientations and approaches are considered to be constraints rather than to be relevant developmental strategies. Therefore, we are now at the crossroad to take new directions: In my personal view, choice should be made from quantity to quality, from external control to autonomy, from external value of education to intrinsic values of education, and from equality to excellence with acceptable level of equality.

(6) In the long range planning, our experience tells that historical perspective and identification of principles should be a firm basis of planning long-term educational development

In the case of Korea, we are more impressed to the needs of the time which demand:

- a. respects to educational principles
- b. respect to diversity in value-pursuit (from vertical thinking to horizontal thinking) and pursue excellence in diversity.
- c. return to intrinsic value of education from the pursuit of extrinsic values of education
- d. re-emphasizes on education for "whole person"

(7) In the Approaches to designing the future of education, I would like to offer following considerations:

- a. "Upper for lower" consideration: Lower level education has been forced to prepare the entrance exam. Now, high school education should be free form exam-oriented education at the cost of screening function of universities.
- b. Socio-economic development for education: the framework of educational development has been "education for national development". In order to upgrade the relationship of education for national development, outside sectors should be invested first. Major supporting program for education should be developed by other ministries as their own important developmental projects. For outside contribution to educational development,
 - Political development should be achieved. Otherwise, university would either lose its autonomy or be a battle field.
 - Small size industry should be developed to provide more job opportunities.
 - Population migration to larger cities should be avoid as much as possible to alleviate the difficult tasks that ministry of education can hardly overcome.
- c. From control to autonomy:

- d. Taking course of redistribution policy, giving more favor to the least sector or the weakest area: this idea is taken from the logic of running-water pipeline for maximizing the supply of running-water. The same logic should be applied to development strategy. One may say that it is the time not to maximize the total happiness but to minimize the total pain.
 - e. Politics and economy should pay attention to the time-lag effects of education. Today is the mirror of tomorrow.
- (8) At this level of educational development in Korea, following seem to be strategic developmental projects. More work has to be done on system design/development.
- a. Entrance examination Refrom
 - b. "Quality" Vocational Education Center within and outside education sector : Industry should play greater role of technical manpower development. Vocational-technical schools should be prevented to be 'the slum' in educational system.
 - c. Development of quality teacher training institution
 - d. System of life-long education
 - e. Utilization of parents payments to tutoring for *quality* education in schools.