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The rise of Korean education from the ashes of the Korean War

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Abstract Over the past few decades, South Korea has made remarkable achievements in education despite many obstacles. Education, in turn, has played an important role in Korea's achieving both economic development and political democracy. This article examines how South Korea expanded access to education and improved its quality. The article also identifies several tasks Korean education faces in the context of the new challenges of globalization and social polarization, and some of the broader policy implications that the Korean model of educational development has beyond South Korea.

Keywords Korean education · Educational development · Educational expansion · Quality of education · Education policy

Korea has made remarkable achievements in education despite many obstacles. More than 120 years ago, the Chosun Dynasty made an attempt to modernize its governance in order to defend its independence from world powers. The attempt turned out to be fruitless,

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however, and Japan annexed it 1910. In 1945, at the end of World War II, Korea was liberated from 36 years of Japanese colonial control. At that time, Korea was divided into two countries, South Korea and North Korea. The Republic of Korea (South Korea) was established in 1948. In 1950, North Korea invaded South Korea and the ensuing Korean War continued until 1953. The new Republic of Korea (hereafter referred to as Korea) then had to build a nation from the ashes of the Korean War. At that time, Korea's per capita income was similar to that of Kenya, in Africa. Over the past few decades, however, Korea has achieved both economic development and political democracy. Education has played an important role and become an integral component in this growth (Adams and Gottlieb 1993).

The development of Korean education can be divided into four stages. First, during the 1950s, Korea achieved universal elementary education despite the Korean War and its devastating impact. Second, during the 1960s and 1970s, Korea observed a dramatic expansion of secondary education, and implemented the equalization policy in order to reduce competition for entrance to prestigious middle and high schools. Third, during the 1980s and 1990s, Korea expanded its higher education system and made efforts to improve quality in education. Fourth, during the 2000s, Korea has made efforts to promote autonomy and innovation in education, while addressing new challenges facing Korean education (Lee 2011a; Lee, Kim, and Adams 2010). In this article we review how the Korean government has expanded access to education and worked to improve the quality of education. We also identify several tasks the system faces in the context of the new challenges of globalization and social polarization.

1950s to 1980s: Expanding educational opportunity

Korea's approach to educational expansion can be characterized as a "sequential bottom-up approach" (Lee 2011b; Lee, Kim, Kim, and Kim 2010). The so-called low-cost approach, which Korea began to use in the 1950s, enabled the country to achieve universal elementary education in its first stage of educational expansion. Korea then expanded access to secondary education during the 1960s and 1970s by implementing an equalization policy to reduce competition and inequalities in access. Finally, it expanded opportunities for higher education during the 1980s and 1990s through the July 30 Education Reform Policy of 1980, which opened the way to increasing admission quotas for higher education.

The sustained expansion of educational opportunities brought about universal school enrollment at each school level, sequentially from elementary to secondary to higher education in Korea. At least eight factors contributed to this quantitative expansion of Korean education:

1. Korea achieved universal access to elementary education at an early stage in its educational expansion.
2. A sequential bottom-up approach to expanding elementary education opportunities was followed by the expansion of middle school and high school education.
3. A low-cost approach expanded access to education, but at the expense of high quality classroom conditions.
4. Private schools were used to expand access to secondary education.
5. In an egalitarian approach to expanding access to education and equalizing school conditions, entrance examinations to middle school were abolished, the high school

equalization policy was established, and an affirmative action policy provided financial aid and free textbooks to students as needed.
6. New laws ensured financial resources for elementary and secondary education.
7. Rapid economic growth provided financial resources and job opportunities for graduates.
8. Parents had high aspirations for their children's education.

Early achievement of universal elementary enrollment with the low-cost approach

When Korea was liberated from Japanese colonial rule in 1945, its education system had a weak foundation. At that time, the enrollment rate for elementary education was approximately 64%. Only 12.6% of eligible children received a secondary education or more. And the 53% of the population aged 13 years and over (about 15 million) was illiterate. Under these circumstances, educators and policymakers emphasized, and sought to enhance, access to education. To ensure that citizens acquired the minimum levels of education, free compulsory elementary school education (grades 1–6) were made mandatory through the Constitution of 1948 and the education act of 1949.

The government's top priority was to enroll the entire elementary-school–aged population. The Compulsory Education Completion Plan, which began in 1954, achieved the goal of 90% enrollment or higher by 1959. What facilitated this dramatic expansion of elementary education was the use of overcrowded classrooms, double or even triple shifts in classrooms, and low teacher pay. In the large cities such as Seoul and Busan, the class sizes in some schools exceeded 90 students. In fact, during the implementation of the plan for making elementary education compulsory, 40% of all classrooms utilized double or triple shifts. This expansion of elementary education came at the expense of quality, in what has been referred to as the low-cost approach (Lee 2008). The expansion of enrollment in elementary schools set the stage for future enrollment expansion in secondary education.

The sequential expansion of secondary education with the equalization policy

Korea experienced rapid economic growth, thanks to the implementation of a series of five-year economic development plans, carried out between 1962 and 1976. The high economic growth rate was accompanied by high population growth, massive migration into cities, and a marked increase in demands for education. During this period, the main challenges for the education system were to equalize secondary education opportunities, expand and improve technical and science education, and improve education conditions (Lee 2011a, b; Lee, Kim, Kim, and Kim 2010).

The increase in elementary education enrollment in the 1950s increased the demand for secondary education, making entrance into middle school highly competitive. Further, the quality of secondary education significantly differed from school to school until the early 1970s. Under these circumstances, parents felt forced to rely on private tutoring to prepare their children for the entrance examination to prestigious secondary schools. To relieve parents of the burden of private tutoring, and to avoid having school instruction be driven by examination preparation, the entrance examinations to middle school and high school, which had been administered by individual schools, were abolished in 1969 and 1974, respectively. Students were assigned to schools by lottery. The abolition of the entrance examinations raised, to 90%, the proportion of students who advanced to middle school.

In addition, to equalize educational conditions across schools, the government began to rotate teachers within school districts and provide financial support to private schools. This series of educational efforts, called the High School Equalization Policy, helped to expand educational opportunities in secondary education and to reduce educational inequalities.

It is important to note that, in its early stages, vocational education in Korea was seen as a tool for economic development, producing the workers needed for various industries. In the 1960s, with the advent of the economic development plans, technicians became more important in supporting the export of light industrial products such as textiles. Accordingly, vocational high school education and vocational training were emphasized. In 1963, the Korean government enacted the Industrial Education Promotion Act to emphasize the function of vocational education and to introduce five-year vocational schools. In the 1970s, the government implemented export-driven economic growth policies centered on production by the chemical industry and heavy industries, and thus invested in industrial high schools and strengthened vocational training for technicians (Jin 2010).

Universal access to tertiary education

Dramatic changes also occurred in higher education. During the 36 years of Japanese colonial rule, Korea had only one university, Kyung-Sung Imperial University. Between 1945 and 1948, it was transformed into Seoul National University, through a process of merging with several public junior colleges. After liberation, more private universities were established. The number of higher education institutions (HEIs) rose quickly, from 19 in 1945, to 55 in 1950. In spite of its poor beginnings, Korea has achieved an unprecedented expansion of post-secondary education in less than three decades. Recent statistics show that 83% of high school graduates progress to post-secondary education (MoEST and KEDI 2010).

Some of the government's policies contributed to the expansion of opportunity for higher education. For example, implementing the July 30 Education Reform Policy of 1980, which aimed to control enrollment quotas not at admission but at graduation quota, allowed universities to accept 30% more students than their graduation quota (Byun and Jon 2011). This policy resulted in dramatic increases in the annual college enrollment. Specifically, the enrollment quota for four-year universities rose from 116,700 in 1980 to 187,062 in 1981, and exceeded 200,000 in 1984. The government's relaxation of regulations on establishing universities also helped increase the number of HEIs (Im 2008). In the 10 years after the guideline was implemented, 78 universities, including 36 graduate colleges, were established and the enrollment quota for universities increased by over 15,000 students.

In retrospect, the early and universal success of elementary education appeared to help raise productivity in the agricultural sector by enabling farmers to adapt quickly to changes in technologies, adopt new technologies promptly, and assign and utilize resources efficiently. Further, the expansion of secondary schools, particularly vocational high schools, helped meet the demand for the semi-skilled and handcraft workers required especially in the heavy and chemical industries. Finally, expanded higher education in Korea helped to supply an abundant R&D workforce. In sum, the sequence of expansions in enrollment, from elementary to middle school, and middle to high school, and then in higher education, responded cooperatively to the sequence of manpower needs as the Korean economy developed (Kim 1997).

1980s and 1990s: The quest for quality improvement

Increasing financial input for quality improvement

Several policy measures for school funding helped set the stage for further educational development in response to economic growth (Lee 2011a; Lee, Kim, Kim, and Kim 2010). Laws creating an education tax and a local education tax were enacted in 1958 and 1963 respectively. In addition, the Law on Grants for Financing Local Education, enacted in 1971, guaranteed that 12.98% (as of 2010, 20.27%) of total domestic tax revenue would be set aside to finance local education. The increased financial resources for education, as a consequence of economic growth, contributed to the quantitative expansion and qualitative improvement of education at both elementary and secondary levels.

In addition, the Korean government made special efforts to reduce class sizes, to increase the number of teachers, and to improve pay for teachers. As a result, class sizes fell from 65 to 30 by 1995, and the average salary level for teachers with 15 years of experience rose above the average for the Organization for Economic Co-operation and Development (OECD) countries (OECD 2008). The average number of students per teacher also dropped continuously. In 1965, that number was 62.4 in elementary schools, 39.4 in middle schools, and 32.3 in high schools, respectively. By 2005, however, it had fallen to 25.1, 19.4, and 15.9, respectively.

Investment for information and communication technology

In the latter part of the 1990s, the application of information and communication technology (ICT) in Korean education entered a new level of development. ICT has made a greatly contributed to Korean education with the establishment of the National Education Information System (NEIS), the Korean Education Research Information System (KERIS), the Educational Broadcast System (EBS), and learning sites operated by private education institutes. Specifically, NEIS has been in operation since 2003, bringing school administrators and educational agencies into an information network through which they can share information on students, administration, academic affairs, school management, and education financing. NEIS faced strong opposition from the teachers union because of concerns about the privacy of individual students, but it has helped in the administration of schools by facilitating the sharing of information.

KERIS, established in 1999, is a government-supported research and development institute for education information services. KERIS developed the edunet, a website providing educational materials for use in the classroom; each provincial board of education connects to it, allowing local educators to use it. KERIS also provides information network services that link major sources of academic information for research purposes. EBS, a television channel, was established in the 1980s to broadcast educational programmes that link directly to classrooms in elementary and middle schools. Between 1980 and 1995, as private tutoring came to be seen as a significant social problem, EBS began to provide an alternative: low-cost supplementary TV-based tutoring programmes. In 2004, when the problems associated with private tutoring again came to the forefront, EBS provided supplementary programmes connected to the Internet, marking the start of a nationally available system of supplemental instruction. In addition, the private education sector developed e-learning systems that offered tutoring. Such companies as Mega-Study and

Credue have developed e-learning systems that offer private web-based tutoring. Vocational education and training has also benefitted from the trend toward e-learning systems.

Government initiatives for school reform

By the 1980s, in spite of its unprecedented quantitative expansion, Korean education faced new challenges. Calls to improve the quality of education became louder and more frequent. During the 1980s and 1990s, government investment in education increased and various administrative controls were introduced to improve educational quality.

Since almost every Korean is interested in and concerned about education, education became one of the government's major tasks, and all presidents since the 1980s have had a presidential committee for education. These committees have played a key role in changing and reforming education. The Presidential Committee for of Education Reform (1994–1997) played an especially important role in changing the direction of education policy. The Framework for a New Educational System, which the committee adopted as the basic guidelines for education in 1995, presented a new education model directed towards becoming a knowledge-based society by allowing schools more autonomy and accountability.

After the framework was presented, several policies were introduced to make schools and teachers more autonomous and to make education more accountable. For example, school councils allowed parents and teachers to take part in important decision-making processes on school matters. New policies on school finance also allowed school officials to have considerable discretion in budgeting and planning. In addition, the seventh school curriculum introduced a differentiated curriculum and stressed autonomy. Finally, by administering a national student achievement test, the government could begin to determine how many students were not doing well.

Teachers' professional competence and commitment

According to UNESCO (2000), developing committed and motivated teachers is one of the minimum essentials in Education for All. Of course, Korea's remarkable academic achievement can be attributed to its dedicated teachers. The Korean government has worked to recruit an excellent teaching force, by offering various incentives and also improving teachers' working conditions. For example, it made an effort to reduce the number of students per teacher; in elementary schools, that number fell from around 60 in the 1960s, to 50 in the 1970s, 40 in the 1980s, and 30 after the 1990s (MoEST and KEDI 2010). In addition, Korean teachers have enjoyed the legal status of national and public officials. This status symbolizes their job stability (OECD 2008, 2009). Furthermore, as noted, their salaries are fairly competitive, compared to those of teachers in other OECD countries (OECD 2008). Together, these factors may explain why talented men and women in Korea prefer teaching to other professions.

However, their job satisfaction appears not to be high. In particular, the pursuit of neoliberal educational policies since the mid-1990s lowered their morale. In 1998, when Korea faced a financial crisis, the government reduced the teacher retirement age from 65 to 62, shocking many teachers. In addition, teachers in elementary and secondary schools have felt threatened by the implementation of measures to evaluate their performance (Ryu 2004).

Building the research capability in higher education: BK21 and WCU

Quality improvement in higher education emerged as the most important task in the 1990s, in part because no Korean university had been included on the list of the top institutions rated by Times Higher Education and Quacquarelli Symonds (THE-QS) and the International Institute for Management Development (IMD). This situation affected Korean higher education policy. Since the 1990s, the government has initiated many new policies to boost the universities' research competitiveness. Among them, two programmes are particularly significant: the Brain Korea 21(BK21) project and the World Class University (WCU) project.

In budgetary terms, BK21 was the first and largest project for higher education. Its two main objectives, as outlined in government documents, are to establish ten research-oriented universities that are globally competitive by 2012, and to make Korea one of the world's ten most advanced countries in terms of knowledge transfer from university to industries (Brain Korea 21, 2012). To achieve these objectives, the government invested US $1.2 billion in Phase 1 (1999–2005) and US $1.5 billion in Phase 2 (2006–2012). Through this huge investment, BK21 has enabled universities to attract more capable graduate students who can participate in research and to develop top-notch technologies. In addition, the BK21 project restructured the institutional arrangement for research universities by decreasing the enrollments in undergraduate programmes and increasing the enrollments in graduate schools, merging or abolishing similar departments.

The first stage of BK21 had many positive outcomes. First, the numbers of doctoral degrees awarded in science and technology fields rose sharply, with a net increase of 6,636 individuals. Second, the number of papers published in Science Citation Index (SCI) journals, which were supported by the BK21 project in science and technology areas, also rose sharply, from 3,765 in 1998 to 7,281 in 2005. As a result, on the SCI's international ranking by numbers of publications, Korea rose from 18th in 1998 (9,444 publications) to 12th in 2005 (23,515 publications). Third, the average number of publications in SCI journals per faculty member or researcher rose from 1.9 in 1999 to 2.43 in 2005. Because of these positive outcomes, the Deutsche Bank Research Institute called BK21 "a true success story built upon high-quality human resources, strong research infrastructure, and enhanced graduate school education" (cited in B. Kim 2010, p. 604).

The WCU project, introduced in 2008, aims to recruit an international "star faculty" and thereby develop world-class academic departments and, eventually, world-class universities. WCU has three types of programmes. Some establish new academic departments or specialized majors in collaboration with full-time international scholars and the Korean faculty. Others employ full-time international scholars in existing academic programmes to teach and/or collaborate. And some invite world-renowned international scholars to teach and/or collaborate part time in existing academic programmes. To achieve these goals, the government planned to invest US $825 million over five years, starting in 2008. At this time it is too early to judge the success of the project.

Although the big leap by Korean higher education in terms of international rankings and research productivity can be attributed in large part to the above projects, they also raise some concerns. Among them are the unequal distribution of funds among colleges, the unequal distribution of funds to science and engineering, the commercialization of research in universities, and the university's dependence on government research funding, which reduces the university's autonomy (Byun and Jon 2011).

Korean students' achievement revisited

It is useful to review a few key findings about the performance of Korean students on international tests.

High performance levels

The high performance of Korean students has been documented in various comparative studies of achievement, including the Trends in International Mathematics and Science Study (TIMSS) and the Program for International Student Assessment (PISA) (see Table 1). For instance, in the most recent (2009) PISA, Korea had the highest mean scores in reading literacy among the OECD countries (but the second highest following Shanghai when the non-OECD countries are included) (OECD 2010a).

Equitable distribution of scores on achievement tests

Korea not only has large proportions of students performing at the highest level, but also relatively few students at the lower levels (OECD 2010a). For example, as shown in Fig. 1, only about 6% of Korean students earned scores below Level 2 on the reading proficiency test of the 2009 PISA. The corresponding proportions for Japan and the United States were 14% and 17%, and the OECD average was approximately 19% (OECD 2010b). Moreover, Korea's gap between high- and low-performing students is much narrower than that in other OECD countries (Table I.2.3 in OECD 2010a), suggesting that there is much less inequality of learning outcomes in Korea than in other OECD countries.

In addition, student achievement varies relatively less among schools in Korea compared to those in other countries (Byun and Kim 2010; OECD 2010a). For example, as shown in Fig. 2, in Korea, approximately 32% of the total variance in reading achievement among 15-year old students was attributable to differences between schools. In contrast, for Japan and the United States, the proportions of between-school variance in reading achievement were 59% and 42%; the OECD average was 42%.

Minimal impact of SES on achievement scores

Finally, in Korea, student achievement is not as strongly related to socioeconomic background as in most other countries (OECD 2010b). Figure 3 shows the relationship between family socioeconomic status (SES) and student reading scores on the 2009 PISA in Korea, Japan, Finland, and the United States, as well as the OECD average. The length of the bar represents the distribution of family SES, from the bottom 5th percentile to the top 95th percentile for each country: The longer the bar, the larger the difference in family SES

Table 1 Korea's overall ranking in international comparative studies of achievement

	TIMSS				PISA			
	1995	1999	2003	2007	2000	2003	2006	2009
Math	3rd	2nd	2nd	2nd	3rd	3rd	1st	4th
Science	4th	5th	3rd	4th	1st	4th	7th	6th
Reading	–	–	–	–	6th	2nd	1st	2nd

Source: Data compiled by the authors

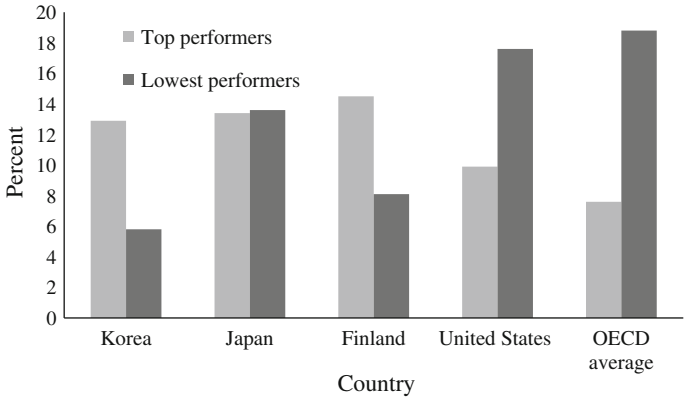

Fig. 1 Percentage of top and lowest performers on 2009 PISA reading test in Korea, Japan, Finland, and the United States
Source: PISA (2009)
Note: Top performers are students whose proficiency in reading is at Level 5 and 6; Lowest performers are students whose proficiency in reading is below Level 2.

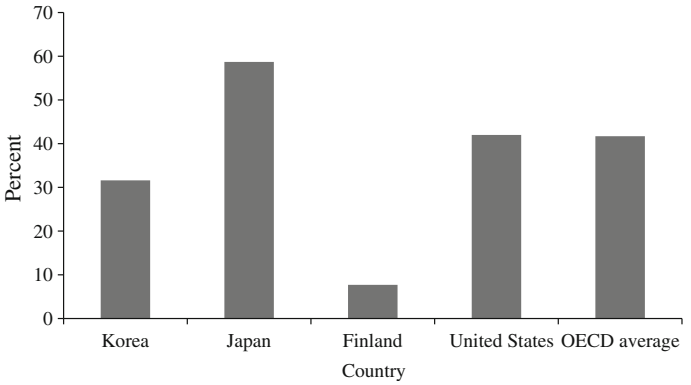

Fig. 2 Percentage of variation on reading achievement scores between schools in Korea, Japan, Finland, and the United States
Source: PISA (2009)

between the top and bottom 5th percentiles. The level of the bar (that is, how far it is above 400) represents the expected average reading achievement score for a student whose family SES is at the index level for each country. The slope of the bar indicates the extent to which family SES is associated with the student's reading score: The steeper the slope, the stronger the effect of family SES on reading achievement, that is, the more inequality. For both Korea and Finland, a one-unit increase in the index of family SES was associated with an increase of 31 or 32 points in student reading scores, respectively. In contrast, for Japan and the United States, the corresponding increases were 40 and 42 points, respectively; the OECD average was 38. In sum, Korean students tend to perform relatively well regardless of their SES, compared to their counterparts in other countries (OECD 2010b).

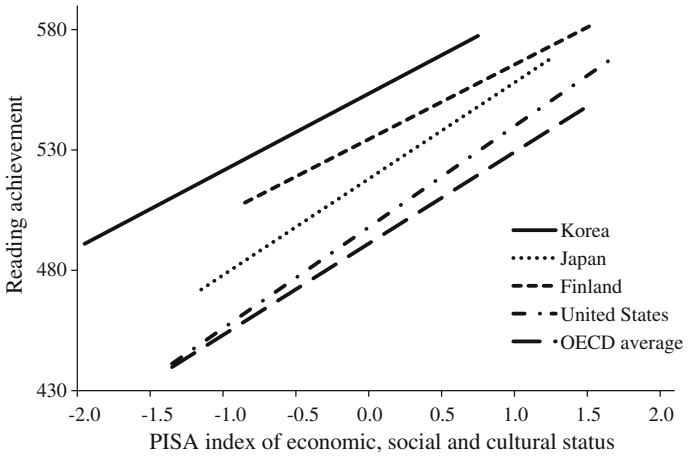

Fig. 3 Relationship between family SES and student reading scores in Korea, Japan, Finland, and the United States
Source: PISA (2009)

Low level of interest in, and little enjoyment of learning

Despite their high performance on tests of various tests academic subjects, Korean students tend to have low levels of interest in and enjoyment of learning (Mullis, Martin, and Foy 2008; OECD 2010b, c). Table 2 shows how 15-year-old Korean students taking the PISA ranked overall on their affective attitudes. Among the 57 countries participating in PISA 2006, Koreans had the second lowest level of interest in learning science.

Because of these contradictory results—high academic achievement but low interest in learning—it is often argued that the higher average performance of Korean students may be the result of drills, memorization, and standardized testing, as well as private tutoring, all of which are believed to suppress students' motivation and creativity. However, little evidence supports this assertion. In fact, one study found evidence contradicting this criticism. Defining creativity as the problem-solving skills measured on PISA 2003, Park (2010, p. 259) found that, among students from all OECD countries, 15-year-old Korean students showed the highest level of the capacity to connect information and apply the accumulated knowledge to solve real-situation problems.

Thus the question arises: Why do Korean students achieve high scores on these tests? Several factors have been suggested to explain the high performance of Korean (and other Asian) students, including cultural arrangements in which families place a high value on education, high educational expectations of both parents and children, and unique parenting styles (see Byun and Park 2012). What remains to be assessed is the extent to which

Table 2 Rankings of affective attitudes of 15-year-old Korean students taking the PISA

Affective attitude	PISA 2003 (Math, 40 countries)	PISA 2006 (Science, 57 countries)
Interest	31	56
Instrumental motivation	38	53
Self-concept	38	53

Source: Data compiled by the authors. Numbers are overall rankings

these factors contribute to explaining the high performance of Korean (and other Asian) students.

Regardless of the factors accounting for this high performance, it seems obvious that Korean educational policy makers should redefine educational contents and approaches by making education more relevant. Students should be provided with more meaningful and relevant educational opportunities. To do this will require more creative approaches to policy and governance of education. Above all, the government's role in education should change from being a regulatory one to being more cooperative and supportive (Lee 2011a; Lee, Kim, Kim, and Kim 2010; Lee and Song 2010).

1998 to the present: Responding to the new challenges of globalization, the knowledge-based society, and social polarization

At the turn of the 21st century, Korea's education system faced new challenges caused by globalization and the advent of a knowledge-based society. Observers were becoming aware of social polarization in the context of these new challenges. The Korean government responded with a two-track approach: developing both human resources and a welfare system in education. Since 1998, Korea has had three governments: Kim Dae-jung (1998–2003), Roh Moo-hyun (2003–2008), and Lee Myung-bak (2008–present). Each has shared the basic structure of this two-track approach while placing its own emphasis on different aspects of policy goals.

For example, Kim's government maintained an equity-oriented secondary education system to reduce students' needs for tutoring, and introduced competition among universities for government funds to support research and education. The BK 21 initiative, to support research and graduate education, and the New University Regional Innovation (NURI), to support university-industry cooperation, were the major funding programmes. Likewise, Roh's government expanded the welfare system for needy students and introduced after-school programmes and e-learning systems to provide alternatives to tutoring for low-income families. On the other hand, the current Lee government has implemented various deregulation measures in the name of excellence and diversity. It has sought to allow more autonomy to schools and institutions and to expand diversity in education. For example, it has diversified types of schools by establishing autonomous schools, vocational magnet schools, and Meister schools. In addition, it has expanded school choice arrangements (Byun, Kim, and Park 2012).

In this current era, several emerging tasks are worth noting.

Human resource development with a whole-person perspective

The directions and contents of human resource development require a balanced and longer-term approach, because this perspective often emphasizes the use of humans as means. Note that the concept of human resource development used during the 1990s evolved from that of manpower used during the 1960s. The instrumental approach to learning and instruction tends to weaken the intrinsic motivation to learn. This may explain why Korean students get high scores on tests of academic achievement but do not always experience the pleasure of learning. One way to foster creativity is to promote intrinsic motivation and the pleasure of learning (Kim 2011).

Human competencies include not only intellectual 'doing', but also relationships and autonomy, which are dimensions of 'being' (Rychen and Salganik 2001). This perspective

highlights the importance of the holistic approach to education, which makes it possible to develop one's character and a harmonious relationship with others (Kim 1983). The main purpose of educating people is to develop their individual and national character (Chung 2010). If the educational system is focused on providing human resource development, it should use the holistic approach to education to develop creativity and other virtues. In other words, human resources should be developed by promoting students' character based on the holistic growth and consciousness of public mindedness (Chung 2011).

From government control to autonomy and governance

In Korea, the government has played an important role in developing education. Despite a difficult financial situation, the government invested in education in very efficient and effective ways. In addition, its involvement in developing school curricula guaranteed its high quality. Furthermore, it could recruit and retain teachers with professional knowledge and classroom competence because the related policies on teachers and teacher education were implemented effectively.

Although government regulations contributed to the development of education, they also created several problems. For example, the pro-egalitarian policies deprived students of the right to choose the schools they wanted. And government intervention in almost all areas of school work deprived school administrators of the opportunity to manage schools autonomously. The government, recognizing these problems, has tried to transform its policies from a focus on control to one on autonomy and accountability. Indeed, the key words in the governance of education have changed since the mid-1990s, from regulation and control, to autonomy and accountability (Park 1995). The deregulatory reforms are expected to lead to more autonomous and diversified schools.

Autonomy and accountability, however, are often misunderstood in the process of educational reform in Korea. The government is the most important actor in ensuring autonomy and accountability, but that does not necessarily mean that the government should participate directly in the whole process of educational reform. Instead, its role may be to allow a wide range of other actors in education—such as students, parents, teachers, schools, teacher organizations, and provincial boards of education—to perform their functions according to established norms and rules. Specifically, students should be encouraged to be self-directed learning agents, teachers should be allowed to take on responsibilities as professionals, schools should be allowed to take responsibility for educational outcomes, and private schools should be granted autonomy. In that way, a system of autonomy and accountability can provide good foundations for cooperative governance.

Quality as relevance, diversity, and effectiveness

Students differ in various ways. Education should help develop their potential and promote individuality. Diversity in education means providing appropriate education to individual students. Quality in education should be defined in this context, including the conditions and processes of school education and a feedback mechanism in which performance is monitored and results are rechanneled to improve educational processes. As we described earlier, the Korean government has allocated more resources to improve the quality of education, for example, by reducing class sizes and improving teachers' working conditions for teachers. Beyond this input dimension, educational programmes should be

relevant and effective to meet students' educational needs. To do this, the programmes should continue to be diversified. Schools must find their niche in the context of autonomy and school choice.

And, in order for educational opportunities to be diversified, educational institutions need autonomy and parents need choices. When students and parents are allowed to choose appropriate programmes, schools can design curriculum and programmes that respond to the needs of students and parents. In the process of giving autonomy and choice to institutions and students, schools can justify their existence and rationale, and can diversify their programmes. On the other hand, the government should only provide incentives.

A balanced view of the relationship between equity and excellence

One of the key institutional features of Korean education is the small variation among schools in terms of resources, curriculum, and teacher quality, a phenomenon shaped largely by Korea's egalitarian approach to education (Byun, Schofer, and Kim 2012; Park, Byun, and Kim 2011). Korea's egalitarian approach to education can be best characterized by the High School Equalization Policy. Some have strongly criticized it for standardizing Korean schooling and lowering the quality of education (Kim and Lee 2003). In contrast, others claim that abolishing it could result in harsh competition to enter selective high schools and more reliance on private tutoring, resulting in inequalities in education (Byun, Kim, and Park 2012).

This debate on the equalization policy suggests tensions between equity and excellence in Korea. In fact, new policies are often caught in a whirlpool of harsh debate in Korea, largely because the concepts of equity and excellence are misunderstood (Lee 2011a; Lee, Kim, Kim, and Kim 2010). Many Korean people think that seeking excellence means competing for higher positions or rankings—which is bound to cause educational inequity. The basis for these thoughts on excellence needs to be shifted, from the vertical to the horizontal. In other words, seeking excellence in education means making an effort to nurture talented people for various fields by providing every student with relevant opportunities based on his or her capacity and aptitude, whatever position they may occupy on a scale. In the end, then, seeking educational excellence is the same as seeking educational equity.

A balance between meritocracy and affirmative action policy

Although the principle of meritocracy must be applied to education, the system must also consider students who are falling behind. In today's situation of slow economic growth and no increase in employment, calls are growing for "warm capitalism" (Kaletsky 2010) and for social welfare. To avoid the traps that welfare can involve societies need to increase the level of trust in competition and in meritocracy in education, by ensuring that competition is fair; meanwhile the people in need must receive appropriate care and support.

As Korea began its post-war development, the educational system had an attitude of working together that applied to educational inclusion. Almost all children were included in elementary and middle school education. In addition to implementing the low-cost approach and the equalization policy, the government applied the so-called *choiyakbowan* (最弱補完) principle. This strategy aims to increase the entire country's social capacity by prioritizing support to its weakest parts. This Korean version of affirmative action policy has been applied to public education. The government placed a priority on families,

schools, and regions in difficult circumstances by allocating more resources to them. For example, it provided free textbooks and fee-free middle school education in rural areas.

As competition for admission to HEIs became severe, selecting applicants based on test scores has become the norm for fairness. Test scores have been considered to be a good measure of achievement, in terms of both ability and effort, and thus a test-based meritocracy has become a foundation for fair competition. Such a meritocracy, however, faces certain limits. Several Korean universities, including Seoul National University, have adopted admissions systems based on regional quotas and principals' recommendations; they all aim to select students based on affirmative action, rather than on test scores. It is important to establish a balance between meritocracy and affirmative action policy. Such a balance is even more necessary if we are to accommodate the needs of at-risk students, including low achievers, students with disabilities, students from low-income or multicultural families and less developed areas, and refugees from North Korea.

Summary

Korea's educational expansion can be characterized as a sequential bottom-up process. That is, Korea first achieved universal elementary education during the 1950s by implementing its so-called low-cost approach. Then, during the 1960s and 1970s, it expanded access to secondary education and implemented the equalization policy to reduce competition and inequalities in access to secondary education. Finally, during the 1980s and 1990s it expanded opportunities to higher education and improved the quality of education. This sequential bottom-up approach corresponded to changing demands for manpower as the country developed economically.

The expansion of elementary education, however, was done at the expense of quality in education. The government's responsibility to provide elementary education for everyone made the low-cost approach an inevitable choice. The forced expansion of enrollment in elementary education resulted in large class sizes and the use of double or triple shifts in classrooms. The equalization policy, which had abolished entrance examinations for middle and high school and assigned students to schools by lottery, helped increase the demand for secondary education. When the Korean government faced limited budgets as it aimed to expand public schools to meet the increasing demand for education, private schools played an important role in providing places in schools. Government actions to secure financial resources for education by law helped to expand access and improve the quality of schools.

The most important early factors in the development of education in Korea were the government's actions to establish universal elementary education and the working together approach to education. Korea's low-cost approach, equalization policy, and implementation of affirmative action policies have been employed as major instruments in the effort to work together. Still, the government's engineering inputs and efforts at quality control have placed constraints on autonomy, diversity, and accountability in education. Institutionalized systems of autonomy and incentives are emerging as critical factors in developing cooperative governance in Korean education.

References

Adams, D., & Gottlieb, E. E. (1993). *Education and social change in Korea*. New York: Garland.
Brain Korea 21 (2012). Organization website. http://bnc.krf.or.kr/home/eng/bk21/aboutbk21.jsp.

Byun, K., & Jon, J. (2011, October). *Quest for building world class universities: Lessons from Korea's experience*. Paper presented at the HEPRI-BK21 GGTRE International Symposium, Developing World-class Universities in the Asia Pacific Region: Policy Approaches for Capacity Building in Higher Education, Korea University.

Byun, S., & Kim, K. (2010). Educational inequality in South Korea: The widening socioeconomic gap in student achievement. *Research in Sociology of Education, 17*, 155–182.

Byun, S., & Park, H. (2012). The academic success of East Asian American youth: The role of shadow education. *Sociology of Education, 85*(1), 40–60.

Byun, S., Kim, K., & Park, H. (2012). School choice and educational inequality in South Korea. *Journal of School Choice, 6*(2), 158–183.

Byun, S., Schofer, E., & Kim, K. (2012). Revisiting the role of cultural capital in East Asian educational systems: The case of South Korea. *Sociology of Education, 85*(3), 219–239.

Chung, B. M. (2010). *Development and education: A critical appraisal of the Korean case*. Seoul: SNUPRESS.

Chung, B. M. (2011). *Tomorrow's Korean as an ideal of an educated person*. Seoul: Hakjisa. (in Korean).

Im, Y. K. (2008). An impact analysis of university establishment regulations. *Korean Journal of Educational Administration, 26*(4), 147–167. (in Korean).

Jin, M. (2010). The link between education and work: Vocational education and training in Korea. In C. Lee, S. Kim, & D. Adams (Eds.), *Sixty years of Korean education* (pp. 546–581). Seoul: SNUPRESS.

Kaletsky, A. (2010). *Capitalism 4.0*. New York: Public Affairs.

Kim, B. (2010). The competitive power of higher education in Korea. In C. Lee, S. Kim, & D. Adams (Eds.), *Sixty years of Korean education* (pp. 582–618). Seoul: SNUPRESS.

Kim, J. H. (1983). *Education for the whole person*. Seoul: Seyung Publishing Co. (in Korean).

Kim, S. H. (2011, October). *Instruction and assessment for creativity.* Paper presented at the KEDI Seminar on School Management. Seoul: KEDI (in Korean).

Kim, Y. H. (1997). The contribution of education to economic development in South Korea. *Journal of Economics and Finance of Education, 6*(1), 31–63 (in Korean).

Kim, S., & Lee, J. (2003). *The secondary school equalization policy in South Korea*. https://pantherfile.uwm.edu/kim/www/papers/Equalization5.doc.

Lee, C. J. (2008). Education in the Republic of Korea: Approaches, achievements, and current challenges. In B. Fredricksen & J. P. Tan (Eds.), *An African exploration of the East Asian education experiences* (pp. 157–217). Washington, DC: World Bank.

Lee, C. J. (2011a, October). *Development of education in Korea revisited*. Keynote address at the 12th International Conference on Educational Research, Seoul National University.

Lee, C. J. (2011b, November). *Expanding access to education in Korea during 1960–1980*. Paper presented at the 4th High Level Forum on Aid Effectiveness, Busan.

Lee, C. J., Kim, S., & Adams, D. (Eds.). (2010). *Sixty years of Korean education*. Seoul: SNUPRESS.

Lee, C. J., Kim, S., Kim, W., & Kim, Y. (2010). A Korean model of educational development. In C. Lee, S. Kim, & D. Adams (Eds.), *Sixty years of Korean education* (pp. 53–106). Seoul: SNUPRESS.

Lee, C. J., & Song, K. (2010). The school reform policy initiatives of a new government. In C. Lee, S. Kim, & D. Adams (Eds.), *Sixty years of Korean education* (pp. 478–511). Seoul: SNUPRESS.

MoEST [Ministry of Education, Science, and Technology] and KEDI [Korean Educational Development Institution] (2010). *2009 education statistics*. Seoul: MoEST and KEDI, (in Korean).

Mullis, I. V. S., Martin, M. O., & Foy, P. (with J. F. Olson, C. Preuschoff, E. Erberber, A. Arora, & J. Galia) (2008). *TIMSS 2007 International mathematics report: Findings from IEA's trends in international mathematics and science study at the fourth and eighth grades.* Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College.

OECD [Organisation for Economic and Cooperation Development] (2008). *Education at a glance 2008*. Paris: OECD.

OECD (2009). *Creating effective teaching and learning environments: First results from TALIS*. Paris: OECD.

OECD (2010a). *PISA 2009 results: What students know and can do—Student performance in reading, mathematics and science* (Volume I). doi:10.1787/9789264091450-en.

OECD (2010b). *PISA 2009 results: Overcoming social background—Equity in learning opportunities and outcomes* (Volume II). doi:10.1787/9789264091504-en.

OECD (2010c). *PISA 2009 results: Learning to learn—Student engagement, strategies and practices* (Volume III). doi:10.1787/9789264083943-en.

Park, S. (1995). The changing conception of education in globalized times: From regulation to deregulation. In The Nara Policy Institute (Ed.), *Educational reform in the era of consumer's sovereignty*. Seoul: Gilbut, (in Korean).

Park, H. (2010). Japanese and Korean high schools and students in comparative perspective. In J. Dronkers (Ed.), *Quality and inequality of education* (pp. 255–273). New York: Springer.
Park, H., Byun, S., & Kim, K. (2011). Parental involvement and students' cognitive outcomes in Korea: Focusing on private tutoring. *Sociology of Education, 84*(1), 3–22.
Rychen, D. S., & Salganik, L. H. (2001). *Defining and selecting key competencies*. Paris: OECD.
Ryu, B. (2004). *The living and culture of elementary school teachers*. Seoul: KEDI (in Korean).
UNESCO (2000). *The Dakar framework for action: Education for all: Meeting our collective commitments*. Paris: UNESCO.

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