CHAPTER 5

GIFTED EDUCATION IN ASIA

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Globalization in economy and in education has highlighted the importance of developing top students for global competition in various fields in Asian countries (Ibata-Arens, 2012). In response to the increasing demand for national talents, many Asian countries have actively moved to develop some form of gifted education. Generally, Western conceptions of giftedness, largely the Euro-American perspectives, provide the theoretical basis for the development of educational programs, procedures for the identification of gifted children, program delivery, and methods of instruction (Wu, Cho, & Munandar, 2000). However, Asian countries differ among themselves in the pace of gifted education development, and the policies and actual practices of gifted program provision.

Globalization has also brought about the realization of the diversity of cultures and contexts, including the different cultural conceptions of giftedness. Although it is tempting to define a homogeneous Asian conception of giftedness, it soon becomes apparent that it is not possible nor is it desirable. Asians come from some 50 countries in five geographical regions: Central Asia, Eastern Asia, Southern Asia, Southeastern Asia, and Western Asia. Historically, each of these regions has pursued very different social and political paths, and countries in these regions are not necessarily homogenous ethnically. Although some countries, such as Japan and South Korea, are relatively homogeneous ethnically, others, such as India, Indonesia, Malaysia, and the Philippines, have several distinct ethnic groups. Despite the amazing diversity, when the development of gifted education is considered, attention has often been drawn to those countries where a period of sustained economic prosperity has brought about significant investment in education by their governments or the private sectors. These countries or regions include China, Hong Kong, Taiwan, Japan, and South Korea in Eastern Asia, and India, Indonesia, Malaysia, the Philippines, Singapore, and Thailand in Southern and Southeastern Asia. The focus of this chapter will be on the development of gifted education in these 11 Asian countries or regions, especially those in Eastern Asia.

Perhaps there is another good reason for choosing to focus on these countries or regions, considering that they do share similar cultural values and beliefs, and their people are generally and typically referred to as Asians, or Easterners, when comparisons are made with North Americans and Western Europeans, or Westerners. Empirical support for such a divide could be gleaned from many studies that sought to cluster societies using factors such as religion, language, geography, ethnicity, and work related values and attitudes. In a recent large-scale study, Gupta, Hanges, and Dorfman (2002) identified 10 distinct cultural clusters on the basis of their analysis and cross-validation of data collected on cultural values and beliefs from 61 nations. They grouped Asian countries within two Asian culture clusters, the Confucian Asian cultures (China, Hong Kong, Japan, Singapore, South Korea, and Taiwan) and the Southern Asian cultures (India, Indonesia, Malaysia, the Philippines, and Thailand).

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IMPORTANCE OF THE TOPIC

Culture can be defined as a system of meanings and practices shared by a group of people transmitted across generations and constitutive of a way of life (Matsumoto & Yoo, 2006). With increasing globalization, the development of formal gifted education, which originated in the West, has crossed national and cultural boundaries. There are concerns among culture-sensitive researchers and educators that advocates and promoters of gifted education in Asian societies, without a critical awareness of their cultural grounding, might risk imposing the values, assumptions, concepts, and practices of Western-based gifted education on Asian societies and cultures where they might not fit well (Christopher, Wendt, Marecek, & Goodman, 2014; Persson, 2012). While voicing the need for caution, Neihart and See (2009), among others, have argued that understanding how giftedness is conceptualized, identified, and nurtured in diverse cultures and contexts, including the Asian cultures, will help increase understanding of current Western-based theories and practices. And beyond multicultural sensitivity, a lot can be learned about and from these cultures. On a more positive note, as knowledge about cultural processes and the dimensions underlying cultural differences accumulates, researchers can reevaluate the cultural validity of Western-based theories and practices, and the conditions under which these theories apply, and enhance the success and sustainability of the development of gifted education in Asian countries.

HISTORICAL AND CONTEMPORARY PERSPECTIVES

Although the modern development of gifted education in Asian countries is largely based on Western conceptions of giftedness, giftedness exists in cultural contexts, and indigenous, implicit, or cultural conceptions of giftedness continue to exert an influence on how giftedness is defined, identified, and nurtured in the different regions of Asian countries. In Eastern Asian countries, the major dominant cultural value system is based on the thinking and teaching of Confucius some 2,500 years ago in China. Confucianism has evolved over the years, blending and assimilating values from Daoism and Buddhism, and has resulted in a cultural value system shared not only by Eastern Asian countries but also by Southeastern Asian countries where there is a sizeable number of Chinese people. In Southern and Southeastern Asian countries, Hindu, Buddhist, and Islamic religious values also assume great importance.

Historical Perspectives on Giftedness and Gifted Education

As early as the Spring and Autumn period in the 8th century BCE, the ancient Chinese valued giftedness and believed that it could be nurtured in at least six domains or six arts (*Liuyi*), including *li* (courtesy and rites), *yue* (music), *she* (archery), *yu* (horsemanship), *shū* (reading and writing), and *shǔ* (mathematics). As far back as the Western Han Dynasty (206 BCE–25 CE), there were documented systematic procedures for identifying gifted children as *shentong* (prodigies) and selecting them through *Tongzike* (children examination system) for government positions and scholarly pursuits in the Chinese imperial court (Chan, 2008). The prevalent view at the time was that gifted children possessed *tiancai* (heavenly ability), which was inborn and a blessing from heaven. A similar nativist view could be found in other Asian Confucian-heritage culture (CHC) countries, such as Korea and Japan (Matsumura, 2007). The Chinese *shentong* blessed with *tiancai* appeared as *shindou* blessed with *tensai* in Japan, and as *sintong* blessed with *cheonjae* in Korea. This view was also endorsed outside CHC countries, in countries with strong religious or spiritual values, such as the Philippines, where the gifted child was considered *pinagpala* or *nainsagutan* (the blessed) from the Almighty (Wong-Fernandez & Bustos-Orosa, 2007). The common view within CHC countries is more obvious when the Japanese *Hiragana* (words) and Korean *Hangeul* (words) are written in their original Chinese characters (which are exactly the same across the three languages), as are the specific relevant terms related to ability and intelligence.

The common view regarding ability was based on Confucian teaching, which recognized that ability, *cai* or *caineng* (*sai* or *sainou* in Japanese and *jae* or *jaeneung* in Korean), could be nurtured into giftedness

through effort or effortful learning. Such *cai* has often been called *rencai* or *yingcai* (*eisai* in Japanese and *yeongjae* in Korean). These terms persist in common usage in China, Japan, and South Korea.

Although the Chinese *yingcai*, and similarly the Japanese *eisai* and the Korean *yeongjae*, have most often been applied to refer to giftedness in scholarly learning and education, they are also related to the notion of intellectual ability or intelligence, *zhineng* (Chinese), *chinou* (Japanese), and *jineung* (Korean), which is literally the ability to know or to acquire knowledge in any domain including but not restricted to academic or scholarly domains. Perhaps, what captures the more global and holistic conceptualization of giftedness is the notion of wisdom, expressed as *zhihui* (Chinese), *chie* (Japanese), and *jihyeo* (Korean), which represents the integration of the knowing abilities from all domains, including the social interpersonal spheres and even the spiritual realms. This same global conceptualization of giftedness can also be found in the Indian *pratibha* (wisdom or intuitive creative faculty from which excellence and creativity originate; Sen & Sharma, 2011), the Malaysian *bijaksana* or *pintar* (wisdom and intelligence; S. Phillipson, 2007), and the Thai *buddhi* or *punya* (wisdom and knowledge) and *satipunya* (intelligence; Anuruthwong, 2007).

It is no surprise that the historical Asian, or Eastern, conceptions of giftedness often went beyond the Western academic or even intellectual giftedness and encompassed social, interpersonal, natural, and spiritual realms. The ultimate aim of education, including gifted education, had to go beyond the individual's realization of potential and achievement of eminence as often emphasized in Western countries. The ultimate aim was the cultivation of body, mind, and soul through effort and effortful learning to achieve the worldly benevolence or *ren* (as in a person with talent and virtue or *junzi* in Confucian teaching) or even the spiritual enlightenment (as in *nirvana* in Buddhist teaching).

Contemporary Perspectives on Giftedness and Gifted Education

It was in the 1960s and 1970s that Asian countries started to develop Western forms of gifted education, together with the traditional Western notion of giftedness defined solely on the basis of intelligence or the psychometric IQ score. There was almost complete reliance on Western IQ tests as indicators of giftedness in the identification of gifted children. The primary concern was whether there were Western IQ tests, such as the Stanford–Binet scale or the Wechsler scale, that adapted with local norms for use in the local context. Because many Asian societies were multicultural and multilingual, nonverbal tests, such as the Raven's Progressive Matrices, were also used, especially in group testing. However, academic excellence as reflected in standardized achievement tests were often used in national talent searches.

Over the years, as the notions of giftedness and intelligence have undergone tremendous changes in Western countries, the IQ score is no longer viewed as an adequate measure of giftedness. Rather, a broadened notion of giftedness is increasingly accepted in Western countries, where general intelligence and academic aptitudes are now regarded as representing the domains of intellectual and academic giftedness among many others. Similarly, this broadened notion of giftedness has met with widespread acceptance in Asian countries. Indeed, the multifaceted or multidimensional conception of giftedness in the 1972 U.S. Marland Report has appeared in different adapted forms in official educational policy documents throughout Asia. For example, the Hong Kong Education Commission reproduced these same domains of giftedness in a report in 1990, defining gifted children as those with exceptional achievement or potential in one or more areas of general intellectual ability, specific academic aptitude, creative or productive thinking, leadership ability, visual and performing arts, and psychomotor ability (Tommis, 2013). The Singapore Ministry of Education defined giftedness by referring to these domains as manifestations of students' strengths. Giftedness has been more explicitly defined by rephrasing this same classification in the South Korean Gifted Education Promotion Act in 2000 (Article 2 and Article 5) and in the Taiwan Special Education Act amended in 1997 and most recently in 2014 (Article 4). In contrast, the term *giftedness* or its equivalents is generally not used or largely avoided in China and Japan.

In Japan, there are strong public sentiments regarding gifted education as elitist and risky in that such practices may perpetuate the inequality in educational opportunities for Japanese children (Matsumura, 2007). In China, unlike Hong Kong and Taiwan where *ziyou* is the equivalent term for giftedness, the term *supernormal* (*chaochang*) has been used since 1978 to describe giftedness as two standard deviations above the norm on IQ and cognitive ability tests. This preferred term does not have a nature-over-nurture connotation (Chan, 2008). However, the focus has been always on developing students' abilities in mathematics, science, and technology. Similar emphasis has been made in Japan, South Korea, and Singapore in recent years in developing academic giftedness in these fields. This emphasis in developing giftedness in science and technology is also in line with the view endorsed by virtually all Asian countries; the overall aim in developing gifted education is not only to ensure equal educational opportunity to meet the individual's needs for realizing potential, but also, perhaps more important, to develop human resources and social capital for a stronger nation. In this connection, the priority societal concern also reflects the common Asian collectivist outlook.

RELEVANT THEORY AND PRINCIPLES

The widespread acceptance of a broadened notion of giftedness among Asian countries can be more fully understood in the context of its consistency with the Asian cultural conceptions of giftedness. Two theoretical models are relevant. One is Renzulli's (1978) three-ring model, and the other is Gardner's (1983) theory of multiple intelligences (MI).

The Three-Ring Model and the Theory of Multiple Intelligences

In Renzulli's (1978) three-ring model, giftedness or the exhibition of gifted behavior is viewed as the interaction among three clusters of human traits (depicted graphically as rings): above average general and/or specific ability, high levels of task commitment (motivation), and high levels of creativity. Gifted children possess this composite set of traits and they are capable of developing and applying them to any potentially valuable area of human performance. Considering that the model defines giftedness, at least in part, in terms of ability and task commitment which could be broadly interpreted as effort, it fits nicely with the Asian ability–effort conception in explaining achievement and successful performance especially in CHC countries or regions. This same mindset of effort and hard work is the underlying force that makes the educational systems competitive and examination-driven in these regions. Regarding creativity, it is said that the collectivist values (e.g., conformity, obedience, not outperforming others) are not conducive to the promotion of creativity, which is a crucial part of giftedness. To cultivate giftedness in children, the promotion of creativity is a top priority in many Asian regions, including China, Hong Kong, Singapore, and South Korea (Hui & Lau, 2010).

In his MI theory, Gardner (1983, 1999) challenged the traditional notion of intelligence as a unitary general ability that is measurable by a single quantifiable index called IQ score, and manifested as a potential early in life. Instead, he redefined the construct of intelligence to encompass the ability to solve problems or fashion products that are culturally valued, suggesting that intelligence is potential to be activated, depending on cultural values, opportunities in the culture, and personal decisions. Further, he proposed, on the basis of a set of rigorous criteria, that there are multiple intelligences, including verbal–linguistic, logical–mathematical, visual–spatial, musical, bodily–kinesthetic, intrapersonal, interpersonal, and naturalist intelligences, and suggested that each individual may excel or be gifted in one or more intelligences. Because individuals may be gifted in different intelligences, the MI theory has also addressed somewhat effectively the equity issue. The pursuit of excellence in different domains is justified via gifted education without elitism in Asian countries, such as India and the Philippines, where basic education for all children is a national priority because of the diversity in language and ethnicity, the rural–urban divide, and the huge economic disparity in the population (Kurup & Maithreyi, 2012; Vista, 2015). Putting aside the equity issue, the MI theory also has great appeal to educators in CHC regions where the

Confucian educational ideal of promoting students' balanced development in domains of *de, zhi, ti, qun,* and *mei* (ethics, intellect, physique, social skills, and esthetics) could be interpreted to correspond to the different MI (Chan, 2008).

Approaches to Differentiated Education

Perhaps, what makes the MI theory (Gardner, 1983, 1999) or any similar multidimensional conception of giftedness appealing to Asian education practitioners is its clear delineation of a finite number of talent domains for differentiated instruction even though these talent domains might not precisely match conventional subject content domains. More important, the practice of differentiated instruction is in complete agreement with the educational ideal of *yin-cai-shi-jiao* (all individuals should be educated according to the levels of their abilities) in Confucian teaching. However, when it comes to the actual practice of differentiated instruction, the Western world has more refined principles to organize curriculum and arrangements for grouping gifted learners in terms of acceleration and enrichment, options and procedures that Asian practitioners have come to learn and adapt in program development in Asian gifted education.

Acceleration and enrichment. In Western gifted education, acceleration and enrichment are commonly used to describe types of programs differentiated for gifted learners. In acceleration, gifted learners move faster through grade-level or subject matter curriculum than same-age peers, and may be offered the standard curriculum at a younger-than-usual age. Enrichment can be viewed as extending, supplementing, and going beyond the regular curriculum in greater depth or breadth, and thus gifted learners are provided with richer and more varied educational experiences. However, any enrichment experience will likely involve new topics or in-depth exploration and are advanced or accelerated in comparison with the regular curriculum. Similarly, acceleration with advanced subject content will generally involve enriched experiences. To distinguish the two, educators generally include as acceleration any strategy that results in credit or advanced placement, and educators include as enrichment any strategy that supplements or goes beyond standard grade-level work without credit or advanced placement. Although different forms of enrichment and acceleration opportunities have been adapted in different Asian countries, particularly worthy of note are the talent search approach, the schoolwide enrichment approach, and the specialized school approach.

The talent search approach. Stanley pioneered the talent search model in his Study of Mathematically Precocious Youth in 1972 (Swiatek, 2007). Since Stanley's creation of talent searches, researchers have expanded the model to include talent development with an emphasis on acceleration options (Lee, Matthews, & Olszewski-Kubilius, 2008). In short, it has become a two-stage model for the discovery and development of academic talent (mathematical and verbal), and its overall purpose is to educate for individual development over the lifespan. The first stage involves the identification of students who have demonstrated a high level of academic performance, as documented by high performance on grade-level tests (e.g., 97th percentile). The second stage involves the assessment of these students' potential for academic challenge by out-of-level testing with tests above their grade levels. These identified students are then counseled and encouraged to pursue a variety of acceleration options that include attending college part time or earning college credit by examination, skipping a grade, receiving individual accelerated tutoring, or entering college early. To administer the variety of educational programs, the Center for Talented Youth was established in 1979, and talent search programs have spread to different regional centers in the United States, extending from identifying academically talented students at the junior high level to those of the elementary level. In the mid-1990s, the Center for Talented Youth International was founded to encourage collaboration with talent search in other Asian countries, such as China, India, South Korea, and Thailand (Ybarra, 2005).

The schoolwide enrichment approach. This approach is exemplified by the school enrichment model (SEM) developed in the mid-1970s by Renzulli for implementation in school districts in Connecticut (Renzulli & Renzulli, 2010). Grounded in the three-ring conception of giftedness, it has

evolved into a model of overall talent development that aims to develop students' creative–productive and academic giftedness with an emphasis on enrichment options. In short, it includes three components: a total talent portfolio, which includes the assessment of each student's abilities, interests, and learning and expression style preferences; curriculum differentiation and modification, such as curriculum compacting; and enrichment opportunities from the enrichment triad model (ETM). The SEM is a flexible approach to identifying high-potential students on the basis of multiple criteria (e.g., achievement, creativity, nomination). Renzulli's vision of talent identification through SEM is the identification of 15% to 20% of the school population, described as the *talent pool*, for the ETM activities. At the core of the SEM, the ETM includes three types of enrichment experiences to encourage students' creative expression and productivity. *Type I enrichment* provides general exploratory experiences to expose students to a wide variety of disciplines, topics, occupations, hobbies, persons, places, and events that would not be ordinarily covered in the regular classroom. *Type II enrichment* provides group-training activities using methods and materials designed to promote the development of thinking and feeling processes, such as creative thinking, problem solving, communication skills, and skills in learning to learn. *Type III enrichment* is defined as individual or small group investigative activities selected and pursued by students who are willing to commit themselves to acquire the advanced content and process training. Assuming the roles of first-hand inquirers, students work on real problems and areas of study that have personal relevance and can be escalated to appropriate challenging levels of investigative and creative activities. More recently, Renzulli and Reis (2012) developed the Renzulli Learning System, an interactive online program that includes various components of the SEM. Several Asian countries, such as China, Taiwan, Singapore, South Korea, and Indonesia, have adopted the SEM via the Renzulli Learning System (Hernandez-Torrano & Saranli, 2015).

The specialized school approach. Gifted students may also be grouped in a secondary school environment that offers advanced curriculum and opportunities for immersion in a special field through mentorships, internships, and research apprenticeships with a faculty possessing exceptionally high levels of content expertise (Olszewski-Kubilius, 2009). This approach can be viewed from the perspective of developing giftedness through stages of abilities, competence, expertise, which lead to scholarly productivity or artistry (Subotnik & Jarvin, 2005). Specialized schools may address any specific talent domains, such as arts and music; although the model is popular in Asia because of specialized science schools and schools that offer specialized science, technology, engineering, and mathematics (STEM) programs to foster the development of future scientists and engineers. This national concern about economic competiveness in Asian countries was the impetus for the wide adoption of specialized schools in China, Japan, Singapore, South Korea, Indonesia, Malaysia, the Philippines, and Thailand.

RESEARCH REVIEW

While understanding the cultural conceptions of giftedness and the relevant theories and approaches could help us understand the different paths taken by different Asian countries in their development of gifted education, research studies related to gifted education in these regions reflect each country's interests and concerns. Well-designed research efforts, especially in evaluation studies, shed light on what works with gifted learners in the specific Asian sociocultural context. Outcomes of these research efforts are usually documented as articles published in relevant journals to inform educators and practitioners in the field.

To understand the gifted education research activities in the 11 Asian countries or regions, I examined articles published in the last decade (2005 – 2014) in six of the most representative international gifted education or giftedness journals published in North America and Western Europe: *Gifted Child Quarterly, Journal of Advanced Academics, Journal for the Education of the Gifted*, *Roeper Review, Gifted Education International,* and *High Ability Studies*. In this examination, I included all

articles as well as advance online publications, but I excluded book reviews, commentaries, and editorials related to the 11 Asian regions of interest. I also excluded research studies conducted outside these Asian regions with participants (e.g., Asian Americans) not residing in these regions. Out of the 102 articles located, 87 were empirical papers, although 15 papers were reviews of conceptualizations of giftedness and related constructs, as well as policy and practice in these regions. Because creativity education has often been included in gifted education in these Asian regions, either independently or as an integral component, I also included two more representative creativity journals, *Creativity Research Journal* and *Journal of Creative Behavior*, which yielded 97 additional research-related publications for a total of 199 contributions from eight journals. A summary of the distribution of these 199 articles is provided in Table 5.1, including 27 research-related nonempirical papers about the selected Asian countries or regions.

Nearly half of the works published during the last decade were primarily written by researchers in Hong Kong and China (25.1% and 24.6%), followed by South Korea (17.1%) and Taiwan (15.6%). The articles in the analysis were published in one of the eight international journals and written in English. Among these works were 30 cross-cultural or multicultural studies involving international collaboration among countries within and outside Asia. When researchers of cross-cultural studies recruited participants from more than one Asian country of interest, I recorded the work as an entry of the country of the first or leading author on the basis of his or her institutional affiliation or corresponding address. Accordingly, about 1/3 of the 30 articles

TABLE 5.1

Publications About Asian Countries or Regions in Six Giftedness Journals and Two Creativity Journals, 2005–2014

		Domain					
Country/region	**Journal**	**I**	**II**	**III**	**IV**	**V**	**Total**
Hong Kong	Giftedness	3	2	6	6	18	35
	Creativity	1	3	3	3	5	15
China	Giftedness	2	2	2	6	5	17
	Creativity	1	9	3	10	9	32
South Korea	Giftedness	0	3	2	4	8	17
	Creativity	0	3	1	5	8	17
Taiwan	Giftedness	0	0	2	6	3	11
	Creativity	0	2	8	4	6	20
India	Giftedness	3	2	0	2	1	8
	Creativity	0	4	0	1	1	6
Singapore	Giftedness	1	1	0	1	4	7
	Creativity	0	1	1	2	1	5
Philippines	Giftedness	1	0	0	0	3	4
	Creativity	0	0	0	0	0	0
Japan	Giftedness	1	1	0	0	0	2
	Creativity	1	0	0	1	0	2
Malaysia	Giftedness	0	0	0	1	0	1
	Creativity	0	0	0	0	0	0
Total		14	33	28	52	72	199

Note. Domain I = Policy/practice issues; Domain II = Conception of giftedness or creativity; Domain III = Assessment/evaluation; Domain IV = Cognitive issues; Domain V = Affective issues. All entries were research papers except 27 (13.6% of the total), and 30 research papers (15.1%) involved cross-cultural studies across regions in and outside Asia. No articles were found for Indonesia and Thailand, so these countries were omitted from the table.

were from South Korea, with the United States as the major collaborator, and about 1/4 of the articles were from China, with the United States and Germany as the major collaborators.

Given that the topics of the publications were diverse, and that no major emerging themes were identified, I classified the 199 papers into five broad content domains (see Table 5.1). I labeled Domain I as inclusive of papers dealing globally with current or proposed policy and practice on gifted education or creativity education. These Domain I works were generally descriptive or narrative and largely nonempirical. In Domain II, I included papers focusing on the conceptions of giftedness or creativity and related constructs, as well as perspectives, beliefs, and attitudes toward giftedness and creativity. I labeled Domain III articles as those related to measurement and methodological issues, including scale development and evaluation on programs and practices. I grouped studies related to cognitive variables and issues, including teaching and learning, curriculum, and learning needs of students in Domain IV, and Domain V covered papers on studies with sociocultural influences, parenting, and socioaffective needs of students. Occasionally, there were papers that crosscut more than one domain, and a judgment would be made whether the paper could be considered predominantly belonging to one domain and would be classified accordingly. Cognitive and sociocultural and affective issues dominated, probably because of the relative breadth of these categories. And there were relatively few papers on policy or practice issues and their evaluation studies. Notable exceptions were Hui and Lau (2010), Kao (2012), Kurup and Maithreyi (2012), Neihart and Teo (2013), Pang and Plucker (2012), S. N. Phillipson, Phillipson, and Eyre (2011), Sumida (2013), Tommis (2013), and Vista (2015).

PRACTICE AND POLICY ISSUES

On the basis of the reviews on policy and practice and a few other similar reviews in different Asian countries or regions (e.g., Chan, 2008; Choi & Hon, 2009; Ibata-Arens, 2012; S. N. Phillipson et al., 2009; Wu et al., 2000), as well as information gleaned from the websites of the Ministry of Education or equivalents in these regions, a clearer picture of the landscape of Asian gifted education emerged. To summarize, I compiled a list of important events (e.g., legislation related to gifted education or the first establishment of specialized schools) marking different milestones in the development of gifted education in each of the 11 countries or regions. Considering space limitations, I judged and chose to list chronologically only five of the most important events for each country in Table 5.2. Historically, India, the Philippines, and Taiwan with its early experimental programs were the first to start some forms of gifted education in the 1960s and 1970s. They were followed by China, Thailand, Indonesia, South Korea, Singapore, and Malaysia in the 1980s, and Hong Kong and Japan in the 1990s. Table 5.2 follows this ordering of countries or regions in presentation.

Equity and Talent Search

In promoting gifted education, the equity issue of providing equal educational opportunities for all children in the country has been and still is a major issue confronting virtually all Asian countries. For example, India, a pluralistic, multicultural and multilingual society, although a first starter, has been overwhelmed with the equity issue in allocating resources because of the large economic discrepancy among classes and ethnic groups. Although economic disparity could be a salient reason for India and the less thriving economies, deep-rooted public sentiments against elitism, including gifted education, are traceable to people's fear of a return to the unequal educational opportunities during historical feudal times and even periods of colonization in most of the Asian countries. It is, therefore, understandable that gifted education has not been accepted by the general public in Japan for years, and was promoted as part of multicultural education or special education in Malaysia and even in Taiwan where the emphasis has been on meeting the needs of all children, including the disabled and the gifted, to actualize their potential. With the broadening of concepts of giftedness, and the shift to domain-specific talents like science and mathematics, most Asian countries have justified gifted education

TABLE 5.2

A Summary of Five Important Events Related to Policies and Practices in Asian Countries or Regions

Country/region	Year	Five important events
Philippines	1963	Manila Science High School (first specialized high school)
	1966	Teacher training program for the gifted
	1987	Official commitment to gifted and talented program in constitution
	2001	Special education centers; Silahis centers
	2005	Gifted Children Act
India	1964	National science talent search scheme
	1977	National talent search scheme; cultural talent search scheme
	1986	National Policy on Education; Navodaya Vidyalaya scheme
	2010	National Institute of Advanced Studies project
	2013	PRODIGY (promoting development of India's gifted young)
Taiwan	1973	Experimental programs for gifted students by the Ministry
	1984	Special Education Act
	1997	Art Education Act
	2000	White paper on science and technology (White papers on creative education and science education followed)
	2008	White book of gifted education
China	1978	Youth classes (University of Science and Technology of China)
	1984	First experimental classes for gifted elementary and middle school children at key point schools
	1985	Middle School No. 8 in Beijing for gifted children
	2010	National medium- and long-term talent development plan
	2011	National curriculum standards (emphasizing creativity development and assessment in primary and secondary schools)
Thailand	1981	Institute for the Promotion of Teaching Science and Technology
	1991	National Science and Mathematics Olympiads Project
	1998	National Scheme of Education (gifted education in plan)
	1999	National Education Act; National Center for the Gifted and Talented
	2007	Mahidol Wittayanusorn school; provincial Princess Chulabhorn schools (science and mathematics)
Indonesia	1982	Pilot project on educational programs for gifted students
	1989	Special Law on National Education System
	1994	Excellent Schools (acceleration programs in selected high schools)
	1994	Plus Curriculum (enrichment programs in elementary schools)
	2003	National Education System Law
South Korea	1983	Gyeonggi Science High School (trend for other specialized schools)
	2000	Gifted Education Promotion Act
	2002	National Research Center for Gifted and Talented Education
	2008	Korean National Institute for the Gifted in Arts
	2009	Gifted Education Act; Korean Educational Development Institute; Korean Advanced Institute of Science and Technology
Singapore	1984	Pilot project of Gifted Education Programs (GEP) in selected schools
	1997	Towards Thinking Schools (promoting creativity in schools)
	2001	GEP extension to more schools and integrated into mainstream
	2004	Integrated programs (IP) in secondary schools
	2004	Singapore Sports Schools (other specialized schools in arts, mathematics, science and technology followed)
Malaysia	1988	MARA Junior Science College System- Special Education Program (MRSM-PKP based on Renzulli's SEM)
	1999	Smart School Project (emphasizing information technology)
	2007	Permata Project (Permata Negara centers for early childhood education)
	2009	Permata Pintar (academic giftedness); Permata Seni (performing arts); Permata Insan (spiritual ability)
	2010	Permata Pintar programs (including School Holiday Program with Johns Hopkins University Center for Talented Youth)
Hong Kong	1990	Education Commission Report No. 4 (Marland categories)
	1994	Pilot school-based programs for academically gifted children

(*continues*)

TABLE 5.2 (*Continued*)

A Summary of Five Important Events Related to Policies and Practices in Asian Countries or Regions

Country/region	Year	Five important events
	2000	The development of gifted education in Hong Kong (multiple intelligences and three-tier implementation model)
	2003	Gifted Education Section of the Curriculum Development Institute (to coordinate school-based programs)
	2007	Hong Kong Academy for Gifted Education
Japan	1997	"Skipping entrance" (early admission for 11th graders)
	2002	Super science high schools; super English language high schools
	2008	Next-generation scientists programs
	2009	Gifted (*Sainou*) Education Subcommittee under Japan Science and Technology Agency
	2009	Tokyo Children's Academy (Tokyo Gifted Academy) International School

development as serving societal needs for building social capital for economic competitiveness.

To achieve the collectivist goal of building a stronger nation, some forms of talent search were first launched by most countries such as the Philippines prior to the provision of its Special Education Programs to elementary students, and Malaysia prior to its enrichment curriculum of the MARA junior science college system. For India, the major approach throughout the past 50 years has been on talent search especially in mathematics and science, from the first national science talent search of 1964 to the present-day National Institute of Advanced Studies project. For other countries, such as China, Taiwan, Singapore, and South Korea, more systematic procedures have evolved. In general, multiple stages and multiple measures have been used. Typically, IQ tests and domain-specific aptitude and achievement tests are involved. Particularly worthy of note is the employment of problem-solving or creativity tests in South Korea, and the use of personality tests in China. With legal foundation, identification in Taiwan is relatively strict, depending on passing a statistical criterion of two standard deviations above the mean on performance in specified standardized tests. In contrast, Hong Kong is relatively liberal and relies on school nomination for admitting its "exceptionally gifted" students to special programs under the Academy for Gifted Education. However, special allowance is always made for winners in international competitions in most countries.

Overall, the ongoing issues in talent search have been on broadening the conceptions of giftedness to include natural, contextual, and nonacademic talents beyond the conventional academic talents, developing better authentic identification tools and procedures, and nurturing giftedness to suit the sociocultural diversities and regional specificities of the Asian context.

Acceleration/Enrichment Articulation

Acceleration and enrichment are viewed as viable options for gifted education programming in Asian countries, and each country has to tackle how best to articulate the two to suit its specific sociocultural context. Prior to any acceleration or enrichment, some forms of curriculum compacting needs to be made, and this poses immense problems to those CHC countries or regions where there are tightly packed standard or national curricula and examination-oriented educational systems. Therefore, recent education reforms in Hong Kong, Singapore, and China have made teaching-less and returning to essential-qualities-oriented education a priority policy change.

While recognizing that acceleration and enrichment options are beneficial to gifted students, some countries or regions have chosen to rely predominantly on enrichment and make exceptions for acceleration. A typical example is Hong Kong where enrichment programs are provided in three tiers or levels of services reminiscent of the three types of activities in the SEM. Acceleration options, such as skipping subjects and grades, and early admission to universities are less common and are new options for gifted students. Similarly, in Malaysia, the Permata Pintar programs organized jointly by the government and local universities offer pull-out and off-site enrichment programs for gifted students, extending even to early childhood and covering

domains beyond academic giftedness to performing arts and spiritual ability.

Singapore and Taiwan also favor enrichment, but unlike Hong Kong, both have built their gifted education entirely within the preuniversity education system. Singapore's gifted education is built on three components: gifted education programs for primary students, integrated programs for high school students, and special schools in sports, arts, and science and technology for high school students. Singapore adopts the model that features self-contained classes for the gifted within designated regular schools where gifted students are pulled out for school-based enriched curriculum in mathematics, science, and English. Similarly, gifted students are provided with special programs in self-contained special classes (for music, art, and dance) or pull-out resource room programs (for academic subjects like science and mathematics) in Taiwan. Although acceleration options are treated as exceptional in Singapore, they are more common and are specified in law in Taiwan. Curriculum compacting, grade-skipping in one or more subjects, and acceleration in one or more subjects are most often used.

In other Asian countries, enrichment and acceleration options are separately used at primary and secondary education. For example, in Indonesia, the Plus Curriculum enrichment option is for special classes for elementary students, whereas the Excellent Schools provide the acceleration option for high school students. Similarly, in the Philippines, gifted primary students are provided with enrichment (special education program) in special classes with special curriculum emphasizing science and mathematics, and gifted secondary students are provided with accelerated curriculum in specialized science high schools. Perhaps, South Korea is exemplary in developing a coherent and comprehensive national program of gifted education that relies on enrichment as well as acceleration. Gifted education is embodied in general education, and is built around a tripartite structure comprising gifted classes as pull-out programs in regular schools, gifted centers as pull-out provisions operated by universities and school boards, and gifted schools for high school students talented in science and mathematics. Gifted classes and gifted centers are generally enrichment oriented. Gifted schools or science schools for the gifted generally use a nongraded or credit-based approach. An interdisciplinary curriculum is designed to develop creativity through the cultivation of research skills and is personalized to meet the abilities and needs of each learner. Continuation from high school to university or higher education is secured for gifted students.

China has largely favored acceleration options which take the form of telescoping curriculum and early admission to universities. Since 1978, experimental classes have been set up to admit younger age students, first at universities, then extending downward to middle schools, elementary schools, and even to kindergartens. Although acceleration options are provided for students talented in science, mathematics, and technology in preuniversity education, enrichment options are also provided for gifted children in Olympiad schools, special schools, and children's palaces. Olympiad schools admit students who are winners in competitions, and special schools and children's palaces generally provide after-school or weekend programs.

Japan did not recognize the existence of gifted education until fairly recently in the form of *sainou kyoiku* (talent education) and in the establishment of the Tokyo Children's Academy in the private sector. However, the *Monkasho* (Ministry) has long allowed schools the discretion to teach advanced content beyond the prescribed national curriculum to meet the learning needs of able students. This normally occurs in many private middle and high schools with 6-year integrated education. Early admission to universities is also allowed for Grade 11 students with excellent aptitudes in mathematics and physics. With the promotion of science and technology as a top policy priority, school-based enrichment programs are offered by super science high schools in science, mathematics, and technology under the Japan Science and Technology Agency.

STEM and STEAM

Special schools are not novel in Asia. India set up one of the earliest schools for the gifted (Jnana Prabodhini Prashala) with enrichment programs in Asia in 1962. The Philippines set up one of the earliest specialized science high schools (Manila Science High School) in 1963. Perhaps, what is novel is that

the science high schools in Asia after the 1980s were modeled after specialized science high schools in the West with emphasis on STEM to nurture students talented in science and mathematics into future scientists and engineers. For example, the Mahidol Wittayanusorn School and the provincial Princess Chulabhorn schools in Thailand were modeled after the Illinois Mathematics and Science Academy in the United States. The four South Korean national-level gifted academies, the Gyeonggi Science High School, the Korean Science Academy, the Seoul Science High School, and the Daegu Science High School, were modeled after this same U.S. specialized school, the Kolmogorov Mathematics and Science School (Russia), and the Israel Art and Science Academy. With the broadening of the conceptions of domain-specific giftedness, Asian countries have now considered extending nurturing giftedness not only in mathematics and science but also in arts, hence STEAM. Japan not only has set up super science high schools but also super English language high schools. Singapore has not only National University of Singapore High School of Mathematics and Science and School of Science and Technology Singapore, but also Singapore Sports School and School of the Arts Singapore. South Korea has also set up Korean National Institute for the Gifted in Arts and the Korean Minjok Leadership Academy.

FUTURE CONSIDERATIONS AND DIRECTIONS

Five decades of practices of gifted education in Asia have witnessed great changes in the landscape of gifted education in many Asian countries or regions. Although a broadened notion of giftedness has been well received in Asia, the provision of gifted education programs is still invariably focused on a small set of domain-specific giftedness such as mathematics, science, and technology targeted for the intellectually or academically gifted. It is expected that the trend of basing education practices on a broadened notion of giftedness will continue, and further broadening will take into consideration not only talents in the conventional domains but also cultural-specific talents such as music and dance in different cultural contexts. The provision of school-based enrichment programs covering a wider spectrum of domains of giftedness and serving a larger proportion of students for talent development has been called for in many regions, as has the endorsement of more acceleration options in skipping grades and early admission to university education in other regions. Further development requiring an effective articulation of school-based enrichment with talent search procedures and acceleration options is likely to be limited by the availability of resources, the dearth of evaluation studies that inform practice, and the shortage of professional training of teachers of gifted learners in many regions.

Apart from the multicultural considerations in broadening conceptions of giftedness, there is also a trend of seeking explanations on the neurobiological foundation of giftedness, and by extension intelligence and creativity, on the basis of current knowledge in neurosciences (see Mrazik & Dombrowski, 2010; Shaw et al., 2006). It is anticipated that more light will be shed on questions such as how giftedness or talent is represented on the brain level, including the role of effort that figures prominently in Asian countries. Specifically, it remains to be solved whether giftedness could be accounted for by *neuronal resource*, more active neuroanatomical areas, or by *neural or neurocognitive efficiency*, which could address differences between the talented and the non-talented while working on identical tasks. Further, any practical applications on the basis of increasing knowledge of brain functions to optimize learning in Asian gifted learners will continue to influence the future development of Asian gifted education.

Another future trend brought about by advances of technology is the increasing use of information communication technology (see Chen, Dai, & Zhou, 2013). Applications like the Renzulli Learning System, which expand enrichment strategies to maximize the creativity and potential of gifted learners are likely to continue and become more complex and sophisticated. Such online courses and resources could help maximize the capacity to serve gifted students who might otherwise be unreachable because of geographical distance or socioeconomic disadvantages in many underdeveloped parts of Asian countries, such as China and India. New technology and computer software will certainly not

only create new teaching modes and new learning opportunities transforming conventional gifted education, but also help build and support a network of experts for mentoring beyond national boundaries within and outside Asian countries.

SUMMARY AND CONCLUSIONS

Globalization has brought about the development of Western-based gifted education in Asian countries. It has also highlighted the diversity of cultures about which and from which we could learn by reflecting on our current theories and practices. Focusing on 11 Asian countries or regions, the evolutionary changes from their historical conceptions of giftedness to the present-day Western conceptions are interpreted as different attempts by these countries at adapting Western gifted education notions in conceptualizing giftedness (the three-ring model and multiple intelligences), developing curricula and programs (the talent search and the schoolwide enrichment models), and considering suitable program options (acceleration, enrichment, and specialized schools). Although the volume of research studies in these countries varies, there is a general call for more program evaluation studies and more systematic and multicultural research that could bear on practice and policy issues. It is anticipated that future policies and practices will continue to be influenced by cultural and societal concerns such as issues in equity and talent search, the acceleration/enrichment articulation, and the shift from STEM to STEAM specialized school approach. The future development of gifted education in Asia will inevitably be challenged by new advances in information communication technology and new findings in neurosciences.

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