

Eight-Nations Education Research Project

**Report to the Steering Committee
December 1-2, 2007**

GENERAL AND VOCATIONAL EDUCATION

**A COMPARATIVE STUDY OF THE ROLES OF
SECONDARY AND TERTIARY EDUCATION PRACTICES
IN SIX NATIONS AND THE IMPLICATIONS FOR POLICY**

High School to Higher Education Transition

Draft, do not use it as reference yet

1 Introduction and overview

Background

There was a time when the equivalent of a secondary education would provide a ticket to economic success almost anywhere in the world. Yet, today, the economic health of developed and developing nations depend increasingly on higher levels of general education and more and more specialized levels of vocationally-specific training. Throughout the world, nations are examining and, in many cases, reforming their educational systems to better capitalize on their natural, social, and economic resources. Yet, they show considerable diversity in the rates of secondary school completion, the nature and degree of vocational training that is embedded in the secondary and post secondary education systems, and in the accessibility and use of higher education.

This report examines how the education systems in six nations from East and West - Hong Kong, Japan, South-Korea, Thailand, Switzerland, and the United States -are structured, with a focus on the features that are important for meeting the economic and social needs locally and globally. One aim of the report is to enhance awareness of different strategies for meeting various types of general and vocational education requirements nations face. Another is to highlight features of various educational systems that are potentially applicable to the needs and circumstances of other nations or regions within nations.

This is a collaborative project that involved researchers from the six focal nations. The research includes a combination of descriptive and comparative analysis based of country-specific data and case-study data gathered through site visits to federal, regional and local education organizations and schools during which the team collected published documents, conducted individual and group interviews with administrators, teachers, and students and observed instructional settings of various types. The collaborative case study research focused was conducted in Switzerland, the United States, and Thailand.

The Context for the Study

The six nations participating in this project are diverse geographically, politically, demographically, linguistically, socially, and economically. So, too, there is considerable diversity in the structure, quality, and reach of their educational systems.

The studies in the sample include one country that is very large geographically and in terms of population—the United States, with a population of around 300 million—and five countries that are small to modest size geographically and that have populations ranging from 7 to 126 million. All six nations have modest to near zero population growth presently. These countries represent considerable political diversity. The United States and Switzerland are democratic nations with considerable fiscal and political autonomy devolving to local regional governmental units—states in the case of the United States and Cantons in the case of Switzerland. Relative to the United States and Switzerland, the national governments of the other four nations represented in this study have much stronger influence over economic, social, and education policies.

The six nations participating in this project also are diverse demographically. Japan and Korea are the most ethnically and linguistically homogeneous of the nations. Hong Kong falls somewhere in the middle, and the United States, Switzerland and Thailand are quite diverse ethnically and linguistically. Importantly, ethnic and linguistic diversity is increasing quite rapidly in both the United States and Switzerland.

Perhaps the most notable differences across the six nations in the study relate to their economic health and structure. Switzerland, the U.S., and Japan all have very strong economies, with gross domestic product per capita of \$30,000 (U.S.). All three countries have a majority of their employment in the service sector, 20 to 30 percent employed in industry, and trivial shares in agriculture (5 percent or less). Hong Kong's economy is in the mid-range for the six countries with a gross domestic product per capita about 60 percent that of top three. Thailand and South Korea the weakest economies, with per capita incomes of \$3,155 and \$16,291, respectively. Thailand is the only one of the six nations whose economy has not generated substantial growth in gross domestic product per capita over the past 30 years. It also is the only one that still has a sizeable agricultural sector.

Consistent with the growing economies and the shifts from agriculture and manufacturing to relatively larger service sectors, all six countries had experienced increases in the educational attainment of its workforce. The increases in the proportion of completing secondary education are especially notable in Thailand, Hong Kong, and Korea. In the case of Hong Kong and Korea, their rates of secondary education completion are now reasonably comparable with those in Japan, Switzerland and the United States.

Switzerland, the United States, and Japan have had a lengthy tradition of sizeable proportions attaining tertiary education. In Switzerland and the United States, the proportions completing tertiary education are quite similar for young adults and older adults (near 40 percent for younger and older workers in the United States and 25 – 30 percent for the two in Switzerland) signaling the fact that these countries have not expanded to any appreciable degree the reach of their higher education systems. However, each has been working to reform their systems to keep pace with changing demands for a more technologically savvy and flexible workforce.

Both Japan and, especially Korea, have substantially expanded their emphasis on tertiary education to the point that over half of the young workers in Japan and just under half in Korea have attained tertiary education. Hong Kong and Thailand have the lowest levels of tertiary education attainment. Yet, they too have increased substantially their capacity and relative numbers moving beyond secondary education.

A driving force in the expansion of tertiary education in the Asian countries has been their economic resources and development strategies. These nations

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Research Questions and Methods

The key concerns identified by the research team [Hong Kong (IP), Japan (Daizen), Korea (So Young), Switzerland (Christoph Metzger, projectleader), Thailand (Sumonta), and the United States (Rebecca Maynard)] include the following: Who needs a traditional college or university education and who a non-academic vocational education to succeed economically? How should we prepare and select students for college or university and for non-academic tertiary education? How can we meet the vocational needs of youth who do not go on to a traditional college or university? What are the impacts of such exercises to the education systems respectively? Is there any contextual factors (such as socio-cultural factors, reform, etc) contributing to such systems?

The collaborative research process consisted of three overlapping phases of data collection and analysis. In *phase one*, team members developed a conceptual model of the critical education transition processes that would be the focus of study. This model guided the future qualitative and quantitative analyses as well as the case studies. It stressed the importance of taking into account several variables that are necessary for understanding and explaining different systems of transition from High School to Tertiary Education. Based on this each team member drafted a desk research based country report which was presented to the team. The discussion in the team led to a first synthesis across the six countries, focusing on similarities, differences and challenges as well as to leading questions for the subsequent case studies.

For *phase two*, the project consisted of case studies focused on three of the countries—the United States, Switzerland, and Thailand. The objectives of the case studies included gaining a common understanding of the secondary and tertiary education systems in diverse contexts, clarifying various qualities of the various systems, and deepening our understanding of the design and operation of the systems beyond that gleaned from the country reports. The case studies were based largely on an ethnographic approach to inquiry. The entire research group participated in site visits to each of the three countries. These visits entailed observations of various secondary and tertiary educational institutions, meetings and interviews with students, faculty, and staff at these institutions, and meetings with select groups of policy makers and government officials. One of the strengths of this method was that its design explicitly utilized and benefited from the perspectives of both the visitors and the host respectively, all sharing a background in education related to the issue chosen.

Phase three of the project focused on comparative analysis and reporting. In this phase, the team developed conclusions based on several information sources. These included the single country reports, a comparative analysis of the findings in the country reports, the individual case study reports, and, finally, the comparative analysis based on the entire corpus of information. This was a two-fold interactive process. In terms of content, the country reports and case studies findings were complementary. In terms of process, the study team relied on multiple modes of communication, including formal meetings and workshops, working meetings, exchange of formal documents, and informal exchanges via e-mail. Table 1.1 presents a chronology of major project activities.

Table 1.1: Chronology of Major Project Activities

Date	Location	Major Activity
2003, September 23-26	Seoul, South Korea	The first meeting of the Team was hosted by the Korean Educational Development Institute (KEDI) in Seoul in Sept 23-26, 2003.
2004, Nov 18-23	Philadelphia, U.S.	2-day Seminar at UPEN, Developing Research Agenda, Site visits to Drexel University, UPENN, and Community College of Philadelphia
2005, May 17-20	Philadelphia,.	Research Group meeting: Review Country Reports, Second Field Research (US, part II): West Montgomery High School, Eastern Center for Arts and Technology, Upper Moreland High School
2005, September	Philadelphia	Team leader meeting and work session: Country report (2 nd draft), Planning next steps
2006, March 6-10	Bangkok and surrounding areas, Thailand	Third Field Research (Thailand): Several High Schools and Universities
2006, May 21-27	Zurich, St. Gallen, Rapperswil, Switzerland	Fourth Field Research (Switzerland): Several High Schools and Universities
2006, September	Philadelphia, U.S.	Team leader meeting and work session
2007, January 19-26	Philadelphia, U.S.	Team meeting and work session, Site visit to Temple University School of Education
2007, September 3-7	Philadelphia, U.S.	Team leader meeting and work session

Organization of the upcoming report

Chapter 1 provides an introduction and overview, chapter 2 provides a brief overview of each of the six countries represented in the study, with a focus on their Education systems. Chapter 3 presents cross-national comparisons of the secondary and tertiary education systems in the focal countries, including the role of education in the transition from secondary school to the work force. Chapter 4 presents the methods and findings from case studies of the Swiss, U.S. and Thai education systems and the transition of youth through from the secondary to the tertiary systems and, ultimately, into the workforce. The final chapter summarizes the findings from the comparative analysis and the case studies and offers reflections on their implications for policy. A companion volume presents detailed country reports that served as background for the comparative and case study research. Each country report includes the following information: (1) background and general description of the nation's educational system; (2) quantity, scale, and enrolment in various levels and types of secondary and tertiary education; (3) values and beliefs that drive the nation's education system; (4) the content and curriculum for various levels and types of educational institutions; and (5) transition and access to tertiary education.

2 Cross National Comparison of Educational Systems

Structure of the systems

The predominant structure of the education system in all participating countries follows the scheme of Kindergarten plus 6–3–3 (primary school, secondary level I and II) plus Postsecondary education. With regard to Primary- and secondary-school there are some variations in

terms of the levels' proportions, such as in the US (6–6, 4–4–4, 6–6 or 8–4 or in Switzerland (6–3–3, 6–3–4, 6–2–4, 6–6) and the duration of secondary level II in Switzerland with 4 years of vocational education in some branches or 2 years for some students' at risk. In all countries, kindergarten and 9 years of school are compulsory, and the vast majority of students goes on to Secondary school level II.

In Postsecondary education all countries differentiate into an academic and non-academic track. The academic track usually takes place at the university, following a structure of a 3–4 years bachelor-cycle, a 1.5 to 2.5 years master-cycle or a longer professional-school cycle (e.g. Law schools), and a PhD or doctoral-cycle, following the master- or bachelor-cycle. Two exceptions are remarkable: Switzerland makes a clear distinction between the “traditional“ university and the University of Applied sciences, the latter offering a more specific vocational education on the bachelor- and master, but not on the PhD-level. In the US, the community colleges, are partly academically oriented, since quite many students transfer from there after usually 2 years to a university

The non-academic track focuses on vocational education, offered by certain colleges and vocational / technical institutions, leading to a lower-than academic Bachelor degree (for example the associates degree of a 2-year community college in the US, non-academic professional bachelor degree in Korea or professional certificates or licenses in many countries). In the case of Switzerland, however, this vocational education is for most students already a continuing education since basic vocational education takes generally place on Secondary level II, and leads to professional diplomas.

Degree of differentiation. In general there is some variation among the countries regarding the degree of differentiation, mainly in terms of purpose of the institutions, when differentiation starts, how strong general education is emphasized, when vocational education starts and which model (dual or school-only) is chosen, academic versus non-academic post-secondary-education, and public versus private institutions.

On Secondary level II the education system is highly differentiated vertically into general education, college bounded education and vocational education in Switzerland, Thailand, and the US, where tracking starts partially in primary and secondary school I already. In Korea, a similar tracking starts on Secondary level II, based on secondary level I GPA. Only in Switzerland, however, vocational education as a dual system of school and workplace-training is both quantitatively and qualitatively emphasized on Secondary level II. In Japan, tracking exists but is not as distinct; in Hongkong tracking is least present since 80 percent of the students go on to academic higher education.

In Postsecondary education, as already mentioned above regarding the system's structure, in all countries academic and vocational education are differentiated, but Switzerland only makes a distinction between traditional academic and vocationally oriented universities. Within the university system in all Asian countries as well as in the US the institutions vary intensively in terms of both the reputation and the degree of financing publicly versus privately. In Switzerland, by contrast, this is not the case, apart from the distinction in two types of universities.

Degree of permeability. Given the system's differentiation, the possibility to go on from Secondary level II to academic Higher education exists in all countries. However, with regard to the conditions to enter higher-education institutions, requirements vary strongly both in the Asian countries and the US, based on the institutions purpose and reputation. In the

Swiss case almost no variance exists within the traditional universities on the one hand and the universities of applied sciences on the other hand, nevertheless a clear difference exists between the two types of universities. This restricted permeability, in fact, is founded by the tracking on Secondary level II, partly even level I already. However, in some systems there are some bridges institutionalized. Worth mentioning for example is in the US the possibility to transfer credits from community colleges to universities and in Switzerland to extend the vocational matura to a general matura which entitles to enter a traditional university.

Numbers of institutions and system finance. Comparing the absolute number of institutions is not really meaningful because of the different sizes of the institutions from country to country. Nevertheless overall there is the trend to emphasize increasingly tertiary institutions both in the academic and vocational education sector observable.

Regarding the financing of the educational system, a big variation in general and in Higher education particularly can be observed, - mainly as to the degree of public versus private - which reflects socio-economic issues as well as traditions in these countries. In terms of prestige, for example, in the US the most prestigious universities are private, in Thailand and Japan those are mostly public, the latter reflecting the importance of national and by this public entrance exams. Switzerland again is an exception because all traditional universities and almost all universities of applied sciences are public. However higher institutions in vocational education are mostly private as well in Switzerland, but often with a certain support by the state. Tuitions are another attribute of the financing system. While in Switzerland tuitions in academic tuitions are comparatively low and quite similar over all institutions, the tuitions vary in the other countries among the private institutions on a relatively level quite strongly, and even the tuitions for public institutions are quite high. Regarding the costs for education furthermore especially remarkable is that in Asian countries the widely spread private tutoring system as a preparation for national exams and transition to higher education is for many families a heavy financial burden.

Main reforms. Regarding reforms quite a variety is reported. They are nowhere going so far that they would change the system of transition from High School to Higher Education fundamentally. Furthermore not many – if at all - similarities and overarching trends can be observed. Nevertheless some reforms are remarkable with regard to the transition. The US-system faces a call for more accountability in secondary and tertiary education. Thailand reports an organisational centralisation of the educational administration and management. Furthermore it reports – similar to Korea - the reform of learning: towards more learner centred teaching and learning and the reform of the Curriculum from grade 1 to 12 emphasizing a balance of knowledge, critical thinking, capability, virtue and social responsibility might change, on the long term, the future university-students' prerequisites. Japan is emphasizing a more competitive environment for students and implements a more strict grading system. Somewhat similar is the Korean reform of the high school equalization policy, suggesting independence schools and talented schools for science, language, and arts are suggested Emphasizing more market driven schools and moving from 2 to 1 public exam after 6 years of secondary school are reported from Hongkong. In Switzerland, finally, some attempts to harmonize or standardize the requirements for the gymnasium matura from canton to canton and by this the gymnasium outputs are as much remarkable as the strengthening of universities of applied sciences and of non-academic vocational colleges.

Commonly held education values and beliefs driving the educational system

In all countries studied in this project, societies, families and individuals value education very highly. They believe strongly that education is for all children, and each child should have as much education as they can. Education is associated with long histories and cultures of the nations. In the history of the oriental countries like Korea, Japan and China, education was closely related to upward social mobility. So teachers were not only someone who could teach, but also the persons to seek, respect and revere. Nowadays education is still perceived as a chance to get good jobs and to move up the social and economic ladder.

Through basic education each individual can be cultured to be a decent human being and a good citizen. Education is the basic tool for economic development of individuals and the nations. Therefore the governments support education and try as much as they can to provide equal educational opportunity to all. The compulsory education has increased beyond primary education, and it is free of charge in public institutions. For example, in Switzerland 90% of the population gets a leaving certificate from secondary school II level. In Thailand free-of-charge 12-year basic education for all Thai citizens is stated in its constitution and elaborated in the 1999 National Education Act. At present the Thai compulsory education is raised from G1-6 to G1-9.

Higher education is also considered public service in all countries by the government's provision of lower-cost public higher education institutions. With an exception of Switzerland, private schools, colleges and universities play an important role in educating children in the studied countries. Some are even more prestigious than the public ones, but they are usually associated with higher cost.

Values of Vocational Education. Differentiation of education starts early in Switzerland, and permeability after the differentiation is rare. Generally secondary education separates students into two tracks, which usually determine the students' future careers. One is general education and the other is vocational education. The majority of Swiss students choose to go to vocational education. This reflects the high value of vocational education in this country. Of course the decision at this early age has to do much with the values and attitudes of the parents and the society. Students who have chosen this track have high self-esteem, and they can pursue higher vocational education to the very high end if they want to. They also earn as much or even more than those from the other track. Swiss vocational education is inherited through innumerable generations of Swiss professionals, and the elaborate tradition of apprenticeship and the cooperation of Swiss business and industrial sector are carried on till now.

Vocational education has lower value in the Asian countries and to some extent also in the USA. The mainstream of students dreams about getting the degrees from the prestigious universities in their countries or in the world. The status of university, especially the high ranking ones, is far higher than vocational education. Even though the Asian governments have tried to promote vocational education, it is still a difficult task to achieve.

Beliefs in Testing and Private Tutoring. The emphasis in the countries, in which vocational education has lower status, is on academic achievement, especially on some forms of national or standard test, to prepare students to compete for prestigious universities. In the Asian countries in particular, some parents do whatever it takes to support their children for college preparation. Private tutoring can be very extensive and can occur very early in life. It can also be unaffordable for the disadvantaged families. In the USA college prep schools are increasing in number. This can be considered a well-structured form of tutoring.

It was stated in the Korean country report that “The competition means that students get good scores in tests. The tests under the competition are usually pencil-based multiple-choice ones because of test reliability.” In general such tests cannot measure practical, creative, problem-solving and writing skills well. So students are not well prepared for many important skills needed for college study, other than rote-learning and memory-oriented education. There may be many negative consequences, like students not paying attention to their regular classes, students and parents suffering more stress, parents carrying more financial load, etc. In such highly competitive environments, these countries must find better alternative ways, with a good answer for the public as to how admission decision can be made objectively without or with less testing.

Notion of Trust. In Japan the notion of ‘trust’ is reported as something highly valued. Institutional attributes representing sincerity, diligence and high potential are more important than individual achievements. To earn degrees, credentials, awards, honours or any other recognition from a recognized and trusted institution is highly valued and admired. So for a student, it is not just to earn a degree, but it also involves the degree from a prestigious institution.

This notion exists in other countries as well but perhaps varies in degree and form. The brand names of the universities are often linked with future careers and benefits, and this explains why students compete so hard to get into highly competitive schools, with full support of their families.

Content / Curriculum of the Educational System

In Switzerland, Thailand, Japan and Korea, except the USA, there are national standards or national curriculum requirements for high schools, both general and vocational high schools. The common feature of the national standards for general education high schools is the minimum requirement of basic subjects like mother language, foreign languages, mathematics, science, social science, arts and sports. Vocational high schools may have the same requirement for basic subjects, as in Thailand and Korea, or somewhat less academic content, as in Switzerland. Beyond the national minimum, the curriculum in each country is institutionally developed. For vocational schools there are more specialized, technical and practicum learning. For general education there are more specialized and advanced academic courses.

Those common basic subjects are mostly important for the transition to higher education, especially in the Asian countries like Thailand, Japan and Korea, in which the results of national entrance examination based mostly on those basic subjects count quite a lot for university admissions. In Switzerland, the Matura which determines the eligibility of high school graduates for university admission also makes those basic subjects very important.

In Thailand, Japan and Korea, the trend has been to put more consideration on high school grade point average in university admission process in addition to entrance examination, and there have been attempts to standardize GPAs of different schools.

Therefore it can be concluded that high school curriculum has a lot of impact on university admission, and vice versa, especially in the Asian countries where university admission is highly competitive and is managed centrally. Extra and excessive tutoring, mostly private tutoring, of the subjects required for admission and entrance examination has a strong impact on high school curriculum and student/parents’ choice of high school specialization.

For the US case, there is no nationally mandated curriculum for schools. However, some states may have instituted some requirements. The majority of regular high schools focus instruction on the core academic subjects, like mathematics, science and social studies. There are some specialized schools, for example, charter schools, magnet schools, science and mathematics-specialized schools that have innovative, non-traditional and advanced curricula. The impact of higher education on high schools in the USA exists among the applicants for admission into prestigious universities, in which admissions are on a competitive basis and based mostly on many criteria, such as high school records, nationally recognized standard test results, letters of recommendation, etc.

In Switzerland, differentiation occurs early and continues so through higher education. Although the Matura is a “passport” to enter the corresponding type of university, it is mostly administered at the institutional level, based on the national standards. Therefore the constraint of high school education on university admission, or vice versa, is not as strong as in other countries.

In all studied countries, universities exercise certain degrees of autonomy in their curriculum development. In Thailand, there are some minimum requirements for higher education curricula, regulated by the national authority, but diversity and autonomy prevail in higher education in the studied countries.

Transition and Access to Higher Education

Both similarities and differences exist among the six nations in terms of students’ transition and access to higher education. Despite the distinct nature of each country’s education system, there are several characteristics of the secondary-to-postsecondary transition process shared by all six nations; for example, students in each country must complete primary through secondary level II schooling (about 12 years) before moving into the tertiary education system; at least one major exit or entrance examination is involved in each country’s transition process (though the value placed on these examinations differs, which is discussed further in this section), and each country exerts substantial effort to make postsecondary education accessible to all citizens. Along with these common features, the participating nations exhibit additional similarities and differences that can be categorized into four overarching themes.

Institutional Autonomy. Across the six nations, institutional autonomy – which is primarily used here to describe colleges’ and universities’ independence in defining their own admissions policies – spans an extremely broad range of characteristics. For instance, tertiary institutions in Korea, Japan, and the United States are completely autonomous in that each individual college or university is free to define its own application requirements, selection criteria, and how the process of admission is carried out. While institutions in these countries often require nationally-administered entrance examinations or certain secondary II credentials, there is little to no governmental influence over the postsecondary admissions process. In other words, each college or university is essentially at liberty to define its selection policies and admit whichever students are the best match for the institution.

In contrast to the autonomy experienced by Korean, Japanese, and American institutions, Swiss universities are somewhat less independent in that every tertiary institution must admit all students who possess the appropriate matura (the Swiss secondary II graduation credential). While some institutions – such as medical schools – impose additional admissions requirements, all Swiss universities generally abide by the nationally-determined standards for admission and selection.

On the opposite end of the spectrum, institutional autonomy in Thailand is extremely limited in that the national government plays a significant role in all postsecondary admissions processes. However, it is important to note that the independence of Thai institutions has progressively increased over the past decade. Prior to the year 2000, Thailand's Commission on Higher Education (CHE) was responsible for making all tertiary admissions decisions, which were entirely based on students' national entrance examination results. Between 2000 and 2005, the new central admissions system was implemented, which gave Thai institutions greater autonomy to define and consider non-test-based application materials (such as academic records and personal interviews) during the selection process. Thus, while final admissions decisions are still made by the CHE and largely based on results from the national entrance examination, Thai institutions have been gaining more authority in determining which students are best suited for their school. Additionally, it is anticipated that Thai postsecondary institutions will have even greater influence over admissions and selection requirements in the future (for more information on the development of the central admissions system, please see Chapter III: Country Report Thailand).

Postsecondary Admission and Application Processes. While there are similarities among the six nations in terms of institutional autonomy, their postsecondary admissions processes are considerably more distinct. For example, one of the most fundamental differences among these countries is the number of institutions that students can apply to. In Thailand, students may submit up to four applications per academic year. In Switzerland, most students only apply to one university due to the general open-access policy (described in more detail below). In contrast, students in the United States may submit as many applications as they choose – there is no limit on the number of colleges or universities to which they can apply. This basic dissimilarity highlights the distinct nature of each nation's postsecondary admissions process, though there are several shared characteristics among them that will be discussed as well.

Postsecondary institutions in each country stress different aspects of students' applications during their admissions processes. For example, Swiss universities place substantial weight on the *matura*, which is the sole essential document required for transition from secondary to postsecondary education. The general *matura*, earned after the completion of courses and final examinations at the Swiss gymnasium, allows students to enter any academic university. The vocational *matura*, earned after the completion of courses and examinations at secondary II vocational schools, allows students to enter universities of applied sciences. Thus, the Swiss postsecondary admissions process is very straightforward: students are automatically admitted to the institution of their choice so long as they hold the appropriate *matura*.

In contrast to the Swiss focus on secondary II credentials, the Thai postsecondary admissions process stresses a different aspect of student achievement: results from the national entrance examination. As discussed earlier, the Thai Commission on Higher Education (CHE) is currently responsible for making all admissions decisions, which are largely based on students' entrance examination scores. Since the year 2000, however, more weight has been given to additional criteria such as academic records, participation in extracurricular activities, and personal interviews. Thus, while the national entrance examination is still used as a primary selection criterion, the new central admissions system incorporates a much broader range of requirements from which decisions can be made. It is also important to note that the Thai postsecondary admissions process is comprised of two distinct systems: the central admissions system (described above), which is managed by CHE, and the direct admissions system, which permits tertiary institutions to directly admit specific students. Essentially, the

direct admissions system allows colleges and universities to select applicants based on regional quotas or personal qualities such as special talents or physical handicaps (for more information on these systems, please see Chapter III: Country Report Thailand).

In contrast to the single-criterion focus of Switzerland and Thailand's admissions systems, tertiary selection processes in Korea, Japan, and the United States are significantly more holistic. Instead of emphasizing a secondary school credential or results from a national entrance examination, these three nations highlight multiple aspects of students' applications, including academic records, grade point average (GPA), essays, letters of recommendation, extracurricular involvement, standardized test scores, specific institutional test scores, and personal interviews. Although some criteria may receive slightly more weight than others, all are considered important elements when making admissions decisions. Aside from this shared characteristic, however, the three countries vary considerably in terms of their actual application processes. For example, Korean students are permitted to choose either the "general" or the "special" process when applying to postsecondary institutions. Under the general process, students are selected based on demonstrated academic ability and standardized test scores. The special application process is used to select talented students from certain geographic areas or from disadvantaged backgrounds. Notably, these processes are quite similar to the central and direct admissions systems used in Thailand.

Unlike Thailand and Korea, Japan does not have a divided admissions system; while the exact application requirements may differ by institution, Japanese students are not able to select the means by which their applications are evaluated. This is also true in the United States, although students are often given a choice of when to apply for postsecondary admission. Many American institutions offer an "early admissions" program in which students submit their application materials before the regular deadline and are notified of their acceptance before the general notification date. Due to their high level of autonomy, each institution is free to decide whether to offer the early admissions program. Institutions that adopt the early admission process are also at liberty to determine whether the decision will be binding (meaning that students must commit to enrolling at that institution if admitted early) or non-binding (meaning that students are not committed to enrolling if admitted early). Interestingly, Korea has a similar system of early admission: students are given five application opportunities per academic year with two "early rounds" during their first and second semesters. Much like the binding early admissions programs of American universities, Korean students admitted during the early rounds are required to register at the institution to which they are accepted and may not apply to other schools during the regular round.

The Role of Entrance and Exit Examinations. As noted at the beginning of this section, the transition from secondary to postsecondary education in each of the six nations requires completion of at least one major exit or entrance examination. The value placed on these examinations, however, varies considerably among the participating countries. In keeping with its distinctive admissions process, Switzerland is the only one of the six nations that gives high significance the secondary II exit examination (which however includes the GPA of at least the last year of High School). With very few exceptions, entrance examinations are not required by Swiss tertiary institutions – the only students who may be required to take an entrance examination are those applying to Swiss medical schools, those applying to academic universities without a general matura, or foreign students who do not hold the equivalent of a Swiss matura. In all other cases, the secondary II exit examination, which are planned, administered and graded by each individual school, is the only assessment that influences which institutions students can attend. Along these lines, students do not get to choose

which sections of the final examinations to take; they must complete the full assessment as it is administered in order to earn the matura.

In contrast to Switzerland, all of the other participating countries emphasize national and/or standardized entrance examinations in the secondary to postsecondary transition process. As described earlier, results from the nationally-administered entrance examination in Thailand serve as the primary criteria for admissions decisions, with less emphasis on secondary school performance. Administered two times per year, the Thai national entrance examination includes multiple academic subjects from which students can choose when taking the test. Typically, students select subjects that are encouraged or required by the institutions to which they are applying. Due to its significance in the admissions process and the fact that it is only offered twice per year, the examination is extremely stressful for Thai students. However, a major goal of the central admissions system is to replace the national entrance examination with two shorter assessments, which is hoped to alleviate some of the students' anxiety.

Similar to Thailand's national entrance examination, the Korean College Scholastic Ability Test (CSAT) includes multiple academic subjects that students can choose from when taking the assessment. Unlike the Thai examination, however, the CSAT is only offered once per year, which likely results in analogous feelings of stress among Korean students. Notably, results from the CSAT are reported as standardized scores for each individual subject, and most Korean institutions rely heavily on these results when making their admissions decisions. Much like the CSAT, the Japanese National Center for University Entrance Examination (NCUEE) is a nationally-administered, standardized entrance examination required by all public as well as some private institutions (excluding junior colleges). The NCUEE is also administered once per year, and includes six academic subject areas. As with Thailand's national entrance examination and the Korean CSAT, Japanese students may choose which of the six subjects they would like to sit for, depending on what is required by the institutions they wish to enter. However, a unique aspect of the Japanese system is that many universities that use NCUEE also require a second examination administered by the institutions themselves, in hopes of measuring students' aptitude and ability with greater accuracy. This multiple-assessment strategy is employed by the majority of public universities as well as some private institutions.

Considering that there are no nationally-mandated entrance or exit examinations in the United States, most tertiary institutions require students to complete at least one standardized assessment before they can be admitted. The SAT Reasoning test, which measures students' abilities in Critical Reading, Mathematics, and Writing, is the most popular standardized test taken by students preparing for the transition into postsecondary education. Each year, the SAT is administered seven times in U.S. territories and six times overseas. The second most popular standardized test is the ACT, which measures students' general academic development in English, Mathematics, Reading, and Science (along with an optional Writing section). The ACT is offered five times a year, but only within the United States. Evidently, standardized entrance examinations are offered much more frequently in the U.S. than in the other nations, which may contribute to lower levels of stress for students who take them. The SAT and ACT are also unique in that students are not permitted to choose among the subjects, much like the Swiss exit examination. In addition to these two assessments, many American colleges and universities require additional examinations (such as the Test of English as a Foreign Language) or institution-specific assessments similar to those required by Japanese universities.

Access to Postsecondary Education. Promoting access to postsecondary education is a palpable shared value among the six nations described in this report. This commitment to social equity is clearly illustrated by each country's enforcement of open-access or open-enrolment admissions policies at a significant number of institutions. For example, students possessing a Swiss general matura are guaranteed admission to any academic university they wish to attend, while those possessing a vocational matura are granted admission to any university of applied sciences. In other words, all Swiss universities essentially operate under an open-access policy, admitting all students who hold an appropriate matura. As a result, students of all racial, ethnic, and socioeconomic backgrounds have the opportunity to participate in postsecondary education.

Although the other five nations do not have guaranteed admissions systems, their commitment to promoting educational access is evidenced by the existence of numerous junior colleges, vocational schools, and open-enrolment institutions. For example, Thailand has a substantial number of highly selective universities, yet there are also two open-enrolment public institutions and myriad vocational colleges whose mission is to provide nationwide access to postsecondary education. The Korean system shows similar characteristics, wherein there are several highly selective universities but also many junior and technical colleges that are much less selective. This is the same for Japan and the United States, in which junior and technical colleges tend to be open-access institutions that admit all applicants who meet basic criteria. By incorporating these institutions into the postsecondary education system, it is clear that Thailand, Korea, Japan, and the United States are equally committed to providing access for students of all backgrounds. In addition, these open-enrolment institutions serve the dual purpose of easing students' transition into postsecondary education by initially exposing them to a less competitive or less rigorous academic environment. This is common in the United States, for example, as many students enrol at community (junior) colleges for one or two years before transferring to a four-year bachelors degree program at a more selective institution. Along these lines, junior and community colleges afford increased access to students of low socioeconomic backgrounds, as the tuition and enrolment fees at these institutions are typically lower than those of traditional four-year universities.

3 Case Studies

Case study methodology

As also stated in the introductory chapter, to conduct case studies in a sample of countries (in one Western, one European and one Asian country, namely US, Switzerland, Thailand) were recognized by the research group as the best way to clarify various aspects and to reach a deeper understanding of the systems respective, which appeared, based on the country reports, appeared to be quite different.

For the case studies an ethnographic approach was chosen. So the entire research group visited each country together. In each country, a small, but nevertheless typical sample of institutions and persons representing levels of the education system respective, actively involved in the transition issue was chosen. The procedure included site visits to different institutions of interest, interviews and conversations with both groups of persons concerned (faculty, students, administrators, researchers, politicians, and in the case of vocational education in Switzerland also managers and apprentices, etc.).

Adapted to the specific conditions in each country the case study developed along the following structure: (1) Introduction by host; (2) Cooperatively planning the conversations,

mainly developing a group-oriented, dynamic, semi-structured catalogue of questions / issues; (3) Displacement to the institution respective; at some places a short site visit; interviews with mainly a small group of faculty/teachers and administrators (two to six), and a group of students (two to six) - depending on the site separate interviews by groups or all representatives at once – all members of the research team taking notes; (4) Short wrap up sessions every day, extended final session drawing first conclusions and defining assignments; (5) Home-assignment for each team member focusing on writing down a visitor's or host's report, which served as a basis for composing the three case study reports and the overarching conclusions.

Besides the three case studies conducted cooperatively, a fourth case was studied differently. The representative of Korea who only could join the Swiss case study developed individually a comparison between the Swiss case as she had it experienced and her personal view of the situation in South Korea. It represents a supplemental piece to the Swiss case and can be found in the Appendix.

Discussion of Case Studies Findings

The case studies affirmed the general nature of the upper secondary and post secondary education systems in Switzerland, Thailand, and the U.S. that were described in the individual country reports. Moreover, they offered some interesting perspectives on the factors that were instrumental in shaping each system and on the strengths and weaknesses of each, given current social and economic contexts. The two most notable *contextual factors* that appear to account for areas of similarities and differences relate to economic conditions and values. There are *four notable contrasts* of the upper secondary and post secondary education systems and their products that appear to have been shaped in part by these two forces: (1) the locus of decision-making regarding the design and administration of various segments of the education systems; (2) the role and status of vocational education in the system; (3) the nature and degree of competition for entry into degree-granting university programs; and (4) the degree of Centralization regarding the transition from Secondary to Post Secondary Education.

Important Contextual Factors

Economic conditions. Both Switzerland and the U.S. are wealthy in comparison with Thailand. Wealth differences are mirrored in the levels of investments in education at all levels, but particularly at the post secondary level. Both the United States and Switzerland have high average annual per pupil expenditures on universal K-12 education. In contrast, Thailand has both lower average annual per pupil expenditures on K-12 education and its universal education extends only through ninth grade (lower secondary school). Moreover, the greater inequality of income and wealth in the U.S. and Thailand, as compared with Switzerland, is mirrored in the patterns of greater heterogeneity in educational attainment levels among the adult populations. In both the U.S. and Thailand, large proportions of youth fail to attain either a high quality, career-focused vocational education, which in most cases would require completing a post secondary vocational education program or a college degree. Most youth in Switzerland either attend a university or complete a quality career-focused vocational education high school; only a small minority leave secondary school with neither the credentials to enter university nor the academic and vocational skills to get a respectable, good-paying job.

Values. The case studies identified several links between national values and the nature of the secondary and post secondary education systems. Notably, it seemed evident from the site visits that the Swiss people expect and value hard work, quality product, and cooperative relationships. This is evident in the well-constructed and maintained buildings, roads, and parks, for example. It also was evident in the pride students, faculty, and employers expressed in their education system and in their workforce, including many lower skill jobs. These val-

ues also were exemplified in the consistent expressions of respect for and trust in the Swiss vocational education system, including their rigorous curricula and standards for graduation. Importantly, Swiss firms are clearly vested in the vocational educational education provided at both the secondary and post secondary level.

The U.S. is very committed to universal access to some form of higher education and, thus, values strong academic preparation for all students at the elementary and secondary school level. High school vocational education, in particular, holds low status in the U.S. in part because, as structured, it appears not to offer a strong academic foundation that would prepare students for post-secondary education. Generally, these programs enroll students who were not succeeding in the academic programs and, with few exceptions, are neither articulated with post secondary vocational education nor geared toward preparing students for higher-skilled, higher-status vocations. In contrast, post-secondary vocational education programs tend to be more rigorous and to hold higher status, often being operated in community college settings in partnership with industry.

The Thai place very high value on university education, viewing this as the way to achieve both personal success and national development. Perhaps as a result of this focus on university education, vocational education holds very low status among Thai students, teachers, and the public—a fact underscored by the lack of public funding for vocational education. This observation was consistent with our observation that students tend to either terminate their education after completion of lower secondary school or, if they continue to upper secondary school, to be highly motivated to succeed in upper secondary school so as to gain admission to college and ultimately high status employment.

Four contrasts in the Upper Secondary and Post Secondary Education Systems

There are many shared features of the upper secondary and post secondary education systems in the three focal countries that are noted in the preceding chapters. But, the focal countries for the case studies highlight the myriad differences that exist across all of the countries included in this study. Judging from the case studies, three of these differences stood out as having important implications for the nature of the educational opportunities available to youth, the mechanisms and likelihood that youth will pursue a successful vocational education program, and the equality of opportunity to access a degree-granting university education.

Locus of control over decision- regarding the design and administration of various segments of the education systems. The education systems of the three focal countries differ with respect to the degree to who controls the curriculum and instruction and who controls access. Consistent with shared national values regarding all four of the key segments of the upper secondary and post secondary education system, Switzerland has a highly centralized system of access to higher education based on certifications of skill mastery conferred by the secondary educational institutions. Those upper secondary schools—the vocational high schools and the gymnasiums—follow guidelines for the skill areas and levels established by federal governing commissions (one each for the vocational high schools and for the gymnasiums). However, the upper secondary schools maintain autonomy regarding their curriculum and instructional practices and, importantly, the schools maintain control over their “certifications” of student skills and, consequently, over students’ abilities to access post secondary education. Interestingly, students and faculty at all four types of schools visited appeared respectful and trustful of this system. Students who earn their high school degree—the Matura—are entitled to enter post secondary education. Students who do not earn the necessary Matura from their high school report having limited opportunities to move on to higher

education through a “remedial” education route, which students described as quite challenging.

The U.S. system of secondary and post secondary education is at the other end of the continuum with respect to control. Despite recent increases in federal and state oversight of K-12 education, school districts in the U.S. have a high degree of autonomy over the design and operation of their schools, but little control over the number of characteristics of the students they must serve. With very few exceptions, students and their parents choose their school and educational program within the school, including whether to enroll in an academically focused high school or a vocational high school or program within the a comprehensive high school. As a result, schools often face challenges resulting from a mismatch between the needs and abilities of students and the curriculum and standards of the school.

Post secondary schools fall into two categories with respect to their locus of control: (1) competitive access schools (generally, four year degree-granting universities) and (2) open and easy access schools (2 year degree-granting colleges and vocational schools). Both types of institutions have considerable autonomy over their curriculum and instruction, with the accountability for quality and content being judged only loosely by student outcomes and satisfaction. Moreover, the competitive access schools also have autonomy in admission decisions. The open access schools face challenges similar to the public K-12 schools in having to meet the needs of students who self-select into the program.

Status of Vocational Education. With regard to the status of Vocational Education Thailand and the USA are rather similar and differ very clearly from Switzerland.

Thailand has many vocational high schools and tertiary schools, both public and private, most of which are small and varied in their specializations and qualities. In the USA the number of vocational and technical high schools (independent from general high schools or cooperation with those varies from place to place, but overall involves not more than about 20%. Vocational Education is mostly postponed to postsecondary education - here the community college plays an important role - and is by that not really coordinated with vocational education on secondary level.

Very much in contrast to these two countries in Switzerland about 65% of the students on upper secondary level go through a well organized, dual system of vocational education wherein they become apprentices learning and working in the real workplace and going to vocational school and are ready to enter professional life. Based on this and quite well coordinated with this, on postsecondary level there is well developed continuing vocational / professional continuing education on the one hand and the possibility to go to a university of applied sciences.

The situation in both Thailand and USA reflects a *considerable stigma of Vocational Education*, associated with attending vocational high schools. As the visits and interviews confirmed, vocational education is associated with lack of general education, low academic requirements, lower social status and less economic opportunity. Vocational education is viewed as the option for students with problems in academic subjects and those having socio-economically disadvantaged backgrounds.

In Switzerland, on the other hand, the society also places high values on this work-study educational system. The willingness and the active participation of the private and government enterprises in the apprenticeship reflect a long-inherited culture and tradition of

work-study as their educational values of the people. It stresses learning and practicing in the workplace as an important and integral part of learning of their children, and it has been the professionalism that has driven and maintained the nation's economic development and strength. The apprenticeship system in Switzerland is very elaborate and culturally inherent. Most employees were apprentices before, but the apprentices may or may not have got the jobs where they had been apprentices. Vocational students seem to have quite a high self-esteem regarding their choice of education and their chances for further education and career - at least those are approaching the vocational matura.

However, Switzerland does face problems similar to the USA and Thailand for the lowest 25 percent of a school cohort: The lower academic performance of these students – often related to a different language- and socio-economic background – causes them to face greater difficulties in finding an apprenticeship of their first choice.

This stigma is based on the notion – or at least the prejudice – that the academic performance of vocational students is weaker than that of their peers. It is also related to the fact that, in many countries, VTE systems and their students are segregated from the educational mainstream.

In all four countries, higher education is increasingly being perceived as the educational path of choice. This trend, what our research team came to call “college mania,” is related to escalating social ambitions on the part of students and their families, as well as by the expectations of employers. The valuing of general education at the postsecondary level is also driven by the demands of economic development and a knowledge-based economy. In fact,

economic factors. (2) The gymnasium-curriculum is both including a broad variety of subjects and requiring a remarkable high level in all subjects. (3) Although the failure rate at the final matura exam is low, the students drop out over the four to six years of gymnasium is quite remarkable. (4) The transition from secondary level I to II is characterised by two selections: On the one hand former gymnasium students and former vocational matura students generally have to pass a rather selective entrance exam or show a very good GPA. On the other hand, within the vocational education students have to apply for an apprenticeship at a young age and compete for apprenticeships along a more or less open or covert hierarchy of areas (such as banking, insurance, electronics).

The Thai system shows a very high degree of competitiveness as far as the prestigious universities are concerned. This is not so much the direct consequence of the high importance of the national exam and also not of the increasing importance of the high school GPA, but the fact that these universities can define the level of requirements by themselves, and by that can be very elitist - also supported by the restricted availability of study seats compared to the demand. On the other hand, not least based on this entrance selection, the drop out at these universities itself seems to be quite low. Regarding the remaining majority of universities the competitiveness and selectivity vary much from medium to almost non-existent. The competitiveness described can be observed already at the stage of transition from low secondary school to high school, at least regarding a few most elitist schools which are well known to be most successful in preparing for the transition to elitist universities.

The US system is very selective with regard to the very good to top ranked universities, both public and private. As in the Thai system that's because these universities can define the level of requirements themselves and by that can support their vision and strategy to be very elitist. This reputation given - in research as well as represented by alumnis, peer groups and job opportunities - they can attract the brightest students. The drop out at these institutions might vary from place to place and will be much higher in the first year than in the following, in the most elitist schools however, not selectivity but coaching for study success in that institution might even be the main goal. Regarding the remaining majority of universities the competitiveness and selectivity vary much from medium to almost non-existent.

The selectivity described in the US-case can already be observed at the stage of transition to high school, since the reputation - and to a certain degree at least - the quality of high schools correlate quite remarkable with the socio-economic background of students and the communities they live in. Going to those high schools seems to support the probability to be well prepared for the transition to a highly ranked university.

Centralization vs. Decentralization. The Swiss transition case seems to be least competitive due to the availability of university seats for all graduates who have got their Matura. Therefore the issue of centralization may not be applied to this case. Nevertheless the team has concluded that all three cases have some form of centralization and decentralization, differing in kind and degree.

The Swiss admission system may be viewed as a centralized system since the universities have no decision as to who they are going to admit, with the exception of the cases of medical schools and foreign students. This is due to the fact that each university has to accept any student who has his/her Matura. The Matura is the gate to universities. Although each school administers its own Matura, it has to have been certified or accredited by one of the two federal commissions on Matura depending on the kind of Matura it administers. One

commission is for general education, and the other for vocational education. The federally administered Matura is available for those who missed their matura in schools.

The USA transition system is most decentralized due to high degree of autonomy of schools and colleges. However, there are many central markers/indicators available for their use, for example, standard tests provided by private organizations, information or statistics about schools, etc. Available accreditation, ranking and information on other indices are free of charge or purchasable to all. Networking and clustering of universities/colleges also provide some degree of standardization and centralization. These are considered indirect kinds of centralization. For the non-competitive colleges/universities, however, decentralized system is usually the case.

A centralized system exists in the Thailand case, as in many Asian countries, in the form of the national tests. The central university admission system is coordinated by the Office of the Commission on Higher Education, under the Ministry of Education. The system relies on the central databases of the national test results from the newly established National Institute of Educational Testing Services grown from the Central Testing Division of the Ministry of University Affairs and students' GPAs from the Office of the Commission on Basic Education, and specific requirements of each university that participates in the central system. Another kind of centralization is the decision made by the Council of the University Presidents of Thailand and various consortiums of deans of specific academic/professional fields, like Science, Engineering, Medicine, etc. The decentralized system exists in the direct admission system of both competitive and non-competitive universities/colleges, where they can exercise full autonomy in their admission procedures. For the competitive universities, the centralized system is viewed by the public as more objective and fair to all applicants. The decentralized system, however, provides more opportunity for the disadvantaged groups in the rural areas.

Private tutoring is inevitable if universities consider test results seriously. The tutoring can be as extensive and as rigorous as that in Thailand and many Asian countries, due to the importance of the national tests in the transition to high-rank universities. But personal/parental tutoring also occurs in the cases of Switzerland to pass the Matura and the USA to get high scores on tests, like SAT or ACT. College prep school is structured for this specific purpose of preparing students for good schools.