Knowledge Studies in Higher Education 2

Jung Cheol Shin
Gerard A. Postiglione
Futao Huang *Editors*

Mass Higher Education Development in East Asia

Strategy, Quality, and Challenges

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Knowledge Studies in Higher Education

Volume 2

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Preface

Higher education is rapidly developing in the East Asian countries. Some countries (e.g., Japan, Korea, Taiwan, Singapore, and Hong Kong China) entered post-massification as their tertiary enrollment rates went over 50 %. In addition, higher education in Malaysia, Thailand, Indonesia, and Philippines are rapidly developing. Recently, the countries in the Indochina Peninsula began to exhibit the same rate of growth. The rapid development of Asian higher education is related to the economic growth in the region. Governments in countries with developed higher education systems perceive higher education as a social system to educate technicians and train professionals for their industrial development, and to produce knowledge and technology for their economy. This is the case with Korea and Taiwan, and national policy in China and Singapore operates along the same lines. On the other hand, education development is relatively independent from economic development in Hong Kong China compared to other countries. In general, however, the developing higher education systems in the region borrow ideas from the developed systems and try to link higher education development to their economic development.

The strategy for the co-development of higher education and the economy may or may not be successful depending on the policy designs and the social contexts. Some strategies fit within their own economic and cultural contexts while others do not. An academic question is what strategies are successful under what conditions. In addition, theorization on the development experiences of these Asian countries contributes to other countries including Latin America, Africa, and the Middle-East. Unfortunately, these academic endeavors are premature despite some academic initiatives. Examples include the book *Dynamics of Higher Education Development in East-Asia* (2014) which is published through the joint efforts of the East–West Center and Seoul National University, and *Higher Education in the Asia-Pacific* (2011) by Simon Marginson, Sarjit Kaur, and Erlenawati Sawir. Also, a special issue journal *Higher Education* was published by Philip Altbach's *Twisted Roots*: *Western Impact on Asian Higher Education* (*1989*).

These publications contributed to our understanding of higher education development in East Asia. For example, Philip Altbach's work contributed to an

understanding of the historical roots of higher education development from the establishment of modern higher education in the region; the Dynamics of Higher Education Development contributed to our understanding of higher education development in the region from different theoretical perspectives; and Simon Marginson's work contributed to our understanding on cultural dimensions of the Asian higher education. However, these works did not go deeply into mass higher education because they focused on the development of higher education itself, rather than on the social phenomena of mass higher education in the region. These countries are experiencing dramatic and rapid transformation through mass and post-massified higher education. This has led to transformative changes in higher education which other higher education systems did not experience. The development brings changes in higher education systems, the roles of the private sector, professors and students, even curriculum and instructional methods, and academic cultures. These transformative changes are peculiar to the region and have not been experienced by other advanced systems, e.g., US, European higher education etc.

This book, discussing mass higher education development in the East Asian countries, consists of three sections—their strategy for higher education development, how professors and students in the region are experiencing the rapid development, and some challenges that mass higher education brings, especially in the East Asian countries. These challenges include the quality of education in the rapidly developed (developing) systems, governance changes in the mass higher education, job markets for college graduates, and strategic management for innovation in the post-massified higher education.

Part I discusses how the East Asian countries accomplished or are accomplishing the rapid development of higher education. Japan, Korea, China, Taiwan, Malaysia, and Hong Kong China are designated as case studies of mass higher education in the region. The case studies introduce and discuss national strategies to develop higher education, funding sources and mechanisms, and initiatives to assure quality of education in a period of rapid growth.

Part II focuses on the phenomena of mass higher education in the region. Mass higher education changes professors and students, who are different from those in elite higher education. Chapter 8 discusses how professors in massified higher education systems differ from professors in the countries less well developed, while Chap. 9 focuses on how curriculum and instructional methods in massified higher education differ from those in less massified systems. Chapters 10, 11, 12, and 13 focus on students in mass higher education. Since the advent of mass higher education, US scholars have used longitudinal survey data to study and propose policies based on students' college experience. Well known surveys include the College Student Experience Survey and the National Survey of Student Engagement (NSSE). Similar surveys are administrated in the East Asian countries. These surveys were conducted in Japan by Tokyo University and by a team from Doshisha University. Yonsei University in Korea conducted a similar survey in collaboration with the Doshisha team, the Tsinghua University team conducted a Chinese version of the NSSE, and a Taiwanese version was conducted by Tamkang University. These surveys include items that range more widely to include students' satisfaction with

their college education, their college experience in their academic, extra-curricular activities and social activities, and the problems they are confronted with. These chapters introduce the results of these surveys and their implications for mass higher education.

Part III discusses some challenges confronting Asian mass higher education. Chapter 14 focuses on social equity of mass higher education development, and Chap. 15 discusses school-to-university transitions during mass higher education. Chapters 16 and 17 discuss the job market for college graduates, especially during a time of economic crisis. Although the Asian economy used to provide job opportunities for college graduates, unemployment has become a serious policy issue in many Asian countries. Chapter 18 discusses the quality of Asian higher education under the conditions of rapid growth. This chapter addresses quality issues from the perspective of quality assurance mechanisms in the region. Chapter 19 discusses university governance under mass higher education. Finally, Chap. 20 introduces a case of survival strategy of a small-scale teacher training university in Taiwan in mass higher education.

The chapter authors are all highly regarded higher education researchers both globally and in the region. Most of them have experience in working with international organizations (e.g., UNESCO, the World Bank, the Asian Development Bank) as well as with their own governments. In addition they have undertaken academic collaboration on an international scale. We are confident that all chapters have strong theoretical grounds as well as practical implications for policy development.

Finally, we thank Heejin Lim Ph.D. student at Seoul National University. She helped us to do primary proof reading, styles checking, and formatting manuscripts for this book publication. We could not finish our editing with her help.

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Chapter 1
Mass Higher Education and Its Challenges for Rapidly Growing East Asian Higher Education

Jung Cheol Shin

1.1 Introduction

Higher education has evolved from the elite stage to mass higher education, and then to post-massification stages in many advanced and some developing countries where tertiary enrollments are over 50 % of the age cohorts. The growth of higher education (this chapter uses "higher education" interchangeably with "tertiary education" though both are different) is remarkable especially in the East Asian countries. This is related to the rapid economic growth in these countries—economic growth requires better educated employees and also the economic wealth contributes to paying for the costs of education. Japan's economic growth occurred in the 1960s and was followed by the four dragons (Korea, Taiwan, Singapore, and Hong Kong) (Vogel 1991) and China, and then by South East Asian countries (Malaysia, Thailand, Indonesia, Vietnam, etc.).

The rapid economic and higher education growth changed the social systems in the East Asian countries. As political philosophers such as Jean-Jacques Rousseau argued during the enlightenment movement in the eighteenth century, education is not independent from society (Cummings 2003). Education development does not simply represent the growth of students; instead, education development implies systemic changes in society in general (Scott 1995). In other words, education development accompanies changes in politics, the economy, and culture in general as well as in education. More education means that people participate more in the political process, the economy moves from a labor intensive to technology based one,

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employees' relationships with their employers are changed, and the culture became more diverse than before (e.g., Trow 1974). These social changes differ according to the political-economic ideologies such as social welfare or market systems that have developed in the Western societies (e.g., Lipset 1996; Wallerstein 1979; Wilensky 1975). Along with these two systems, this chapter proposes that Confucian social systems parallel these two representative Western social systems.

Based on these discussions, this chapter highlights some challenges that current mass higher education is struggling with. These challenges include the decoupling of teaching and research, quality of education, privatization and cost sharing, managerialism and academic freedom, and over-education and unemployment.

1.2 Historical and Theoretical Understanding of Mass Higher Education

1.2.1 Modern Society and Education

Public education systems emerged with the advent of modern society in the eighteenth and nineteenth century. Prior to this, education was the result of an individual decision rather than delivered in the public interests (Cummings 2003). The modern public education systems are related to the social hierarchy of people. Feudal systems established a rigid hierarchy where position was determined by family social status. However, with the emergence of modern society the social hierarchy became increasingly diversified and was determined by other criteria such as financial wealth, occupation, and education. Of these, education has been increasingly functioning as the mediating factor between social status and economic capital, i.e., one's job and economic capital influence social status through education.

The European system, especially the German system, is a representative case that shows how education links to economic and social status (Teichler 2009). For example, German secondary school has three different tracks in which academically talented students study in the college preparation track, but those who are less academically able are assigned to vocational tracks and trained for jobs after they graduate from vocational schools. Although this type of tracking in education has been diminishing, such social systems are still remains in Germany and countries based on the German tradition. France has also closely linked education and employment since the Civil Revolution and Napoleonic times (e.g., Clark 1983).

In the US, although education is a critical factor for determining people's social status, it does not automatically determine their jobs after graduation. Instead, US society tries to improve social equality through providing equal opportunity for education. Providing educational opportunities in this system is a social agreement between politicians and educators and in the US early tracking was not welcomed by political leaders and educators (e.g., Brewer and Rees 1995). Consequently, the number of years spent in education has been rapidly growing, faster than in Europe and Great Britain. East Asian systems, especially Confucian systems, historically

developed academic merit-based social systems where people's education was the major determinant of their social status and their social resource allocation (e.g., Shin 2012). The Confucian systems had developed examination based resource allocation systems long time ago in China and other Confucian tradition countries such as Korea, Japan, Taiwan, etc. Although the examination-based systems were criticized during the modernization process, the social spirit of examination-based social resource allocation is still in place. In the Confucian societies, examination has been considered as a fair and good measure of individual merits and ability.

Education systems have been established as the core social system for determining social hierarchy through modernization and civil revolution in the Western society, or historically rooted systems in the Confucian societies (Cummings 2003). Although parents' socio-economic status has the strongest influence on their children's social status (e.g., Sirin 2005), education is institutionalized as the core social systems for determining people's social status in modern society (e.g., Teichler 1992). Some critical theorists (e.g., Collins 1971; Bourdieu and Passeron 1977) argued that people's social status is determined by their socio-economic status and education is simply reproducing people's social status. Nevertheless, one cannot deny that people's ability measured by their education has contributed to mobility across social classes. This is more evident in the fast developing societies—in East Asia, for example—where education and examination-based social resource allocation has been taking place from for a long time. The belief that education determines social hierarchy is a strong driver of education development in the East Asian countries (e.g., Marginson 2011).

Peoples' belief in education is similar to the political leaders' belief that education is the core basis for national development. Political leaders consider education to be the main social driver for enlightening and enlarging the mind of society, while training human resources for economic development. This political belief has its theoretical basis in human capital theory from the late 1950s in the USA (e.g., Becker 1964). In addition, human capital theory was combined with national planning theory which was developed to help developing countries in the 1950s and 1960s. Building on this theoretical basis, education became a core factor in the economic and national development of advanced countries as well as in developing countries. Gradually developing and developed countries began to expand the years of formal education in order to support their economic development. These initiatives have been encouraged by international organizations such as UNESCO, OECD, and the World Bank (e.g., The World Bank 2002).

1.2.2 Sociological Discourses

Sociologists explain mass higher education from different perspectives. For examples, functionalists (e.g., Etzioni 1969) argue that the expansion of mass higher education is a natural consequence of professional society, i.e., the society requires better

educated employees because society needs specialized employees. The functionalist perspective was supported by economists from the human capital school in the late 1950s and 1960s (e.g., Schultz 1971) and this perspective was further developed by globalization theorists in the 1980s, especially in the Anglo-American countries. The globalization perspective emphasizes knowledge and human resource training as the main drivers of innovation and economic development. Both perspectives agree that mass higher education is the natural consequence of social demands for highly educated employees. These perspectives are globally disseminated through international organization such as OECD and World Bank (Samoff 2013).

On the other hand, conflict theorists (e.g., Collins 1971; Bouden 1973; Bourdieu and Passeron 1977; Hirsch 1976) argue that the increase of mass higher education is the results of competition for limited social sources, e.g., decent jobs, improved social hierarchy, etc. For the conflict theorists, education is not a consequence of social demands for higher level knowledge or technology. Instead, higher social classes study upper level education to maintain their social class using education to legitimate their exclusive status. Karl Marx and later sociologists (e.g., Chris Collins, Michel Apple, and Martin Carnoy) are aligned with the conflict theory perspective. Philip Brown (2000) is a major contributor to this discussion. The conflict perspective scholars argue that mass higher education is a consequence of social competition between people who are competing for limited resources, places in the upper social classes, and so on.

Although neither perspective fully explains the social phenomena of mass higher education, each perspective explains different dimensions of it. The conflict theory and positional competition perspectives explain the individual's motive to study upper level education, especially higher education, while the functionalist perspectives explain policy initiatives within a country or across countries. Although the globalization discourses led by neo-liberalists are widely accepted, the positional competition perspective (e.g., Brown 1999; Brown and Tannock 2009) explains the massive amount of private tutoring that occurs in many countries, especially those in the Confucian tradition. We observe a strong desire among students to improve their position in the social hierarchy through their academic achievements in Korea, Taiwan, Japan, and Hong Kong (e.g., Lee et al. 2010).

1.2.3 East Asian Higher Education Development and Confucianism

The rapid development of higher education in East Asian countries is frequently discussed in academic circles (e.g., Marginson 2011). Recent academic discussions seek to explain education development from wider perspectives than those of economists' who focus on how education contributes to economic development. In their discussion on higher education development outside Western countries, scholars tend to focus on how the education system in the region is related to the

original Western models. A well known scholar is Ashby (1966) who explored higher education development in the African countries and India from the perspective of how the current higher education was related to the former colonizers in these countries. Along the same lines, Philip Altbach and other authors of follow up studies in their special issue of *Twisted Roots* (1989) concluded that there is no Asian model of higher education, but that the higher education systems in the East Asian countries are *hybrids* of Western higher education systems and localized contexts in the region.

Higher education scholars pay more attention to local contexts, e.g., Confucian culture to explain the exponential growth of higher education in the region. These scholars try to explain how Confucian culture became intertwined with education development in the region. A well known scholar is Simon Marginson (2011) who pointed out five main features of the interrelationship of higher education with the Confucian tradition. Shin (2012) also explained higher education development in Korea in terms of the interrelationships between Western university ideas, economic development, and Confucian culture. In their recent book *The Dynamics of Higher Education Development in East Asia*, Neubauer, Shin, and Hawkins (2013) presented a more comprehensive perspective to explain higher education development in East Asian countries. They explained higher education development in the region in terms of the interplay between cultural traditions, economic development, globalization, and the evolution of the 'hybrid' university.

It is clear that higher education development in the region cannot be solely explained by a single perspective. In the globalized society, multiple perspectives explain education development better than a single perspective because each country borrows ideas from others. Even European higher education systems have dramatically changed since the Bologna Process of 1999 which mandated EU countries to adopt a standardized education system. With these changes, contemporary higher education systems are becoming similar across countries and within regions (e.g., Krücken and Meier 2006). In addition, global higher education systems became homogenized with the emergence of the research university, and a growing interested in the world-class universities (Ramirez and Meyer 2013). The globally recognized universities began to compete with each other against predetermined indicators mostly around research productivity and internationalization. Globally recognized universities are becoming similar according to these indicators (Shin and Kehm 2013).

Asian higher education systems have features in common, especially in the countries sharing a Confucian tradition. In his discussions, Shin (2013a) explains the root of the similarities of the Confucian countries from the Confucian philosophy which emphasizes current life rather than an afterlife (as is found in, for example, Buddhism, Christianism, and Islam). He states that Confucian philosophy encourages people to be educated to improve their life and improve their society better. This philosophical approach is also related to the notion of social reward systems that allocate valuable resources to their people according to their levels of education (e.g., Shin 2012). In the Confucian culture, education is the main mechanism for transmitting parents' social status to their children, i.e., the educated children can

keep their social status while the others cannot keep theirs. Without understanding the social reward systems, it is not easy to explain the enthusiasm for education of the parents and students in East Asian countries with a Confucian tradition.

1.3 Political Economy and Mass Higher Education

1.3.1 Social Welfare, Market, and Confucian Systems

In academic discussions on higher education development across countries, the political economy is critical because it is closely intertwined with the education system and its development (e.g., Scott 1995). Since the end of the Cold War in the early 1990s, two representative political economic systems—Anglo-American systems and continental European systems—have been influential in the West and have exerted a huge impact on Western societies. The two systems differ in their relationships to society as well as in their philosophy of education. The Anglo-American systems are market-oriented systems while the European systems are social welfare systems (e.g., Scott 1995). These systems differ in their perspective on education, public funding support for education, and its relationship with other social systems (e.g., Lipset 1996). The European countries consider education as a component of the social welfare system and public funding pays the costs. On the other hand, market systems consider education as a semi-public good and individuals are encouraged to contribute to the costs (e.g., Shin and Kim 2013b). These two perspectives can explain education systems in Western countries, as well as the countries that have adopted these systems. On the other hand, there is more than the heritage of the two systems in East Asian countries, so that these features are institutionalized differently in the region (Shin and Kim 2013b). In this chapter, the systemic features of the East Asian Confucian countries are defined as the Confucian systems.

In social welfare systems, the growth of mass higher education places a heavy burden on public funding, leading to mass higher education drawing additional funding from taxes. Social welfare has expanded rapidly in these countries especially when socio-democratic governments gained the majority in national politics. In the social welfare states, the higher education budget is not easy to increase because the welfare states invariably suffer from financial shortages. On the other hand, the state does not invest heavily in market oriented systems because a user payment approach is widely used (Johnstone and Marcucci 2011). In the market-based systems, higher education development relies on students and parents. Because of the systemic differences between countries, mass higher education emerged slowly in the social welfare systems while it has been relatively fast in the market systems (e.g., Scott 1995).

Confucian systems show patterns that are similar to the market systems in their funding for higher education. The Confucian countries do not invest much in the way of public resources into higher education. Instead, these countries require students and parents to pay tuition fees. On the other hand, Confucian systems

Table 1.1 Higher education enrollment, research inputs, and employment

Country	Gross tertiary enrollment rate (2011)	Share of private enrollment in tertiary education (2011)	Total expenditure on educational institutions and administration as a % of GDP (Public sources) (2010)	Unemployment rate of tertiary graduates (2008)
USA	95.3	27.9	1.0	46.5
UK	61.2	100.0	0.3	14.3
Germany	56.5		1.1	11.0
France	57.1	20.1	1.2	18.3
Australia	83.2	8.8	0.8	19.0
Korea	100.8	80.7	0.7 (year 2009)	21.1
Japan	59.9	78.7	0.6	33.2
China	24.3			
Hong Kong	59.9	17.2	0.8	17.1
Singapore		64.3	1.1	24.6
Malaysia		43.1 (year 2010)	1.7	24.9
Indonesia	27.2	61.7	0.5	10.2

Data Sources: The Word Bank. "http://data.worldbank.org/"

prefer to favor strong national initiatives, similar to the social welfare systems, emphasizing state planning (Marginson 2011). The Confucian systems are therefore a mix of the social welfare as well as the market-oriented systems (Shin and Kim 2013b). This approach is possible because Confucian societies support strong government leadership for planning and also there is a strong desire of parents which allows the states to accomplish their education development plans with little public resource.

As shown in Table 1.1, social welfare systems pay a large share of tertiary education expenditure from the public funds while the share is quite low in market oriented and Confucian systems. In addition, tertiary enrollments are relatively high in both market and Confucian systems, but are relatively low in social welfare systems. Mass higher education has developed first within market systems, followed by Confucian systems, and finally the social welfare systems. The following section discusses how the mass higher education development is also related to industrial production in these countries.

1.3.2 Economic Production and Mass Higher Education

Education systems have developed in a close relationship to economic production systems. The emergence of public education was also a social response to the industrialization and bureaucratization of states in the eighteenth century (Cummings 2003) as they began to establish public education—especially primary education—as a social system to train human resources as labor required by mass production.

Ulrich Teichler (1992) and William Cummings (2003) articulated well the relationship between industrial development and education systems. With industrialization, machines replaced much formerly physical work, and industrial production entered the mass production stage. Mass production systems are enabled through standardization of production processes, requiring people to work together in a factory. During the early industrialization stage most factories require their workers to read and calculate, and to follow the directions and guidelines given by their supervisors. Primary level education was developed in the early industrialization stage to ensure a workforce with these capabilities.

With the progress of industrialization, factories began to produce machinery to replace physical labor. This industry requires skilled workers who can work in complicated manufacturing processes and who can do more than read and calculate. These factory workers are expected to have better work attitudes, work collaboratively with others, and have the required technical skills. Secondary education systems, especially vocational education were developed to meet this need. During the industrial revolution, most factory products were standardized for efficiency of production. In addition, management technologies were developed to enhance their efficiency of production processes (e.g., Tolbert and Hall 2009). Well known scientific management theories developed by Henri Fayol, Frederick W. Taylor, and Henry Ford, emerged during this period and well trained workers became the core factor in production competitiveness.

However, customers' preferences moved from accepting standardized items to wanting something unique and customized, and the core business issue became finding ways to satisfy customers' various preferences issue (e.g., Bell 1973; Rainey 2009). Reflecting these market changes, businessmen became as interested in customer satisfaction as in production efficiency. How to create new markets is a core business issue in the customer-oriented economy. In this phase economic production is not simply about producing items, but knowing how to create new markets through innovation. In other words, the economic system has moved its focus from production to customer service as the critical issue in production. These changes led increased demands for more than workers with the necessary technical skills, as well as demands for more education (e.g., Teichler 1992; Scott 1995). Higher education has been expanded rapidly to cope with the demands of the service economy, and higher education, especially business administration has grown faster than other fields.

Economic production has experienced transformative changes with the growth of information and communication technologies (ICT) starting with the emergence of the popular personal computer in the 1980s. In the new economy, companies need technicians who have knowledge and skills in ICT. In addition, innovative management became a survival factor in the competitive global environment which emerged in the early 1990s. With these changes, companies began to seek out advanced degree holders who could contribute to innovation in management and technological development. Knowledge management became a popular byword in business administration (e.g., Nonaka 1991). Many countries began to compete with each other to build a world-class research university believing that a research

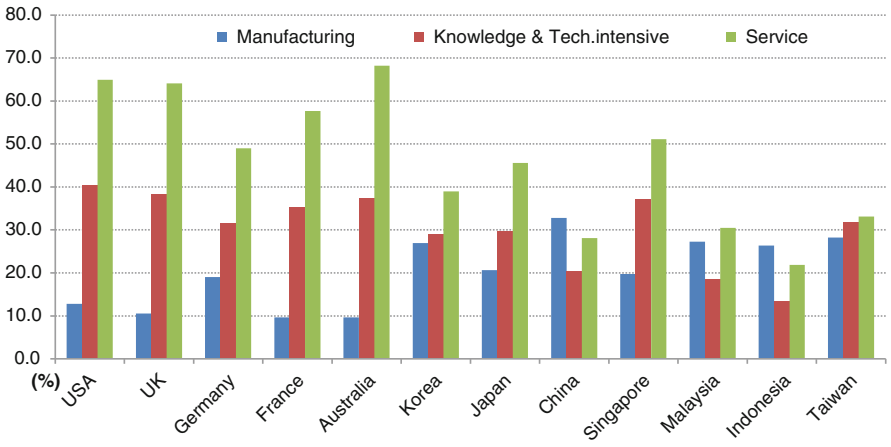

Fig. 1.1 Share of GDP by manufacturing, knowledge & technology, and service (2010) (Data Source: Science and Engineering Indicators 2012 (http://www.nsf.gov/statistics/seind12/appendix.htm#c6))

university is the driver of economic development. According to Shin and Kehm (2013), many European and Asian countries are aggressively pursuing this path.

The nature of the relationship between education and economic development differs in each country (e.g., Psacharopoulos and Patrinos 2004; Collier and Dollar 2002). Some countries rely heavily on a service and knowledge economy while others have an economy more dependent on manufacturing. For example, Germany, Japan and Korea have a relatively strong manufacturing basis while many Anglo-American countries have shifted their economic structure from manufacturing-based to service and knowledge-based economy as demonstrated in Fig. 1.1. The different industrial structures require different types of education systems. For example, the Anglo-American systems have well developed business administration majors but relatively less competitive engineering schools. In addition, the different economic production structures require different education systems. The German systems developed strong vocational training for their manufacturing industry whereas Japan and Korea met the needs of their manufacturing and hi-tech industries through engineering schools. Because of these systemic differences, higher education was rapidly developed in both Japan and Korea while vocational training flourished in secondary school education in Germany (e.g., Teichler 2009).

1.4 Challenges for Contemporary Mass Higher Education

This section discusses the major challenges that accompany the fast growth of mass higher education. The challenges are similar to those facing contemporary higher education. Shin and Harman (2009), for example, have discussed challenges that

globalization poses for higher education. These challenges differ somewhat by country and across regions. For example, since the Bologna Process started in 1999 EU members have been struggling with new systems that focus on the standardization of degree and credit systems. This however is not an urgent issue facing most East Asian higher education systems.

This section focuses on some challenges that higher education scholars frequently point out when discussing the development of mass higher education, especially in East Asia. This chapter discusses five issues considered as the major challenges – the decoupling of teaching and research, issues of quality, privatization and cost sharing, managerialism and academic freedom, and over-education and unemployment.

1.4.1 The Decoupling of Teaching and Research

Mass higher education means that student enrollment is growing rapidly, resulting in diverse student demographics and less academic preparation than their peers received in the past. This implies that higher education institutions are expected to pay more attention to their students and classroom teaching. With mass higher education, higher education institutions in the USA have responded relatively well to these changes (e.g., Hurtado 2007). University teaching has been recognized in decisions on faculty tenure and promotion as well as research performance. In the USA with their longer history of mass higher education, support units for teaching and learning are well institutionalized. Students' college experience and their level of satisfaction have been studied with longitudinal surveys. Managerial reforms have also enabled institutional managers and their staff to show strong leadership for the teaching functions. On the other hand, many higher education systems without such a long history of mass higher education development are less well prepared for these changes.

Government initiatives to build world-class universities lead universities and academics to focus more on research than on teaching (e.g., Shin and Kehm 2013). The faculty evaluation and reward criteria are weighted towards research productivity, and teaching performance is considered minimal in many research focused universities. In addition, academics' research is often narrow in scope and focused on many topics which in turn are rarely integrated into their classroom teaching (e.g., Shin 2011). More research productivity means that academics pay less attention to their teaching, and their research does not contribute to their classroom practice. It is in this context that the decoupling between teaching and research happens with serious consequences, especially in the rapidly massified higher education systems that focused on building a world-class university. Many East Asian higher education systems are in this category and lag behind US higher education in finding a balance between teaching and research.

The USA and some European higher education systems have adopted policy initiatives to balance teaching and research in conditions of mass higher education (e.g., Glassick et al. 1997; van Vught 2009). One representative example is the

mission classification in US higher education institutions. Modeled on California's Master Plan of 1959, the Carnegie Foundation proposed mission classification across US universities in 1970. The classification has been updated and policy initiatives have incorporated the classification scheme (Shin 2009). According to the classification and subsequent policy initiatives, US higher education institutions began to become more aligned on their missions—such as research or education. This enabled state or national higher education systems to be systematically balanced between teaching and research (e.g., O'Meara and Rice 2005; Finkelstein 2013). In addition, there is a division of labor between undergraduate and graduate programs, and between professors who are assigned more to teaching and those assigned more to research (Shin et al. 2014a). Through this mission classification and division of labor between academics, US higher education has been able to maintain its global competitiveness.

European higher education also began to respond to the demand for a similar balance through policy initiatives. For example, the UK, the Netherlands, and Australia adopted policies to balance and coordinate between teaching and research at the level of the individual professors or academic units (Leistyte et al. 2009). The research assessment exercise in the UK led their professors to focus on teaching or research (e.g., Harley 2002). As well as these policy initiatives, current managerialism leads higher education institutions and their academics to focus only either teaching or research to save their resources and push for excellence at the same time. These strategic approaches have led to the decline of full time tenure-track academics who undertake both teaching and research, and the hiring of academics who are non-tenure track and work in either teaching or research, but not both (Shin et al. 2014a).

Finding a balance between different types of university functions—teaching, research, and service—are critical for the future development of higher education. Shin and Teichler (2013) defined the functional complexity as an identity crisis within post-massified higher education and proposed some dilemmas and their thoughts about future development. In his chapter of the book, Shin (2013b) discussed the decoupling of teaching and research and proposed multiple multilayer systems as an alternative model for the future of post-massified higher education. Although these discussion and arguments need more empirical evidences with more theoretical discourse, finding ways to balance the different functions are ongoing research topics within higher education studies.

1.5 Quality of Education

Higher education policymakers and scholars wonder if the rapid massification of education has resulted in decreased quality. The decoupling of teaching and research could lead to this. A drop in quality may also be a natural consequence of the changing demographics and a decrease in public funding for higher education, especially by the per capita measure. As countries have begun to expand access to higher

Table 1.2 Student achievements at secondary education

	PISA (2012)			TIMSS (2011)	
Country	Reading	Science	Math	Mathematics	Science
USA	498.0	497.0	481.0	541.0	416.0
UK	499.0	514.0	494.0	542.0	529.0
Germany	508.0	524.0	514.0	528.0	528.0
France	505.0	499.0	495.0		
Australia	512.0	521.0	504.0	516.0	516.0
Korea	536.0	538.0	554.0	605.0	587.0
Japan	538.0	547.0	536.0	585.0	559.0
China					
Hong Kong	545.0	555.0	561.0	602.0	535.0
Singapore	542.0	551.0	573.0	606.0	583.0
Malaysia	398.0	420.0	421.0		
Indonesia	396.0	382.0	375.0		

Data Source: OECD statistic. http://www.oecd.org/statistics/

education with a minimum increase in public resources, students' preparation levels are generally lower than before yet their classroom sizes bigger under massified higher education. In post-massified higher education college curricula have shifted from specific subject knowledge to introductory level knowledge. Higher education scholars often point out that the quality of higher education, especially in East Asian countries, is questionable because of the rapid growth it has sustained over the last two decades.

The argument that the quality of education is relatively lower in post-massified higher education in East Asian countries may or may not be true. Educational quality is determined by three factors—the qualifications of professors, the academic preparation level of students, and the quality of curriculum and the effectiveness of classroom teaching. There is no clear evidence that East Asian higher education is any less competitive than in the West. Although we do not have clear empirical evidence through a measure such as student achievement, there are some indirect measures to infer the quality of East Asian higher education. According to international comparative studies such as the Program for International Student Achievement (PISA) and the Trend in International Mathematics and Science Study (TIMSS), Asian students are outperforming their peers in Western society (Table 1.2). Some critics of the international comparative studies may point out that Asian students are not as creative, and their problem solving skills are relatively less well developed than their Western colleagues. However, these criticisms disregard that these assessments measure creativity and problem solving as well as subject knowledge.

In addition, the qualification of college professors is not inferior those of the Western universities. According to the Changing Academic Profession (CAP) data, the percentage of East Asian academics holding a PhD is the same as or greater than that of Western university's (Teichler et al. 2013). Some may question the quality of

the PhD degrees of Asian scholars given their PhDs are granted by relatively less competitive universities. According to the CAP data, however a large share of PhDs was earned from an advanced higher education system. Also, a large number of professors teaching at many leading Asian universities that award domestic doctorates received their doctoral degrees from competitive research universities in the USA, UK, and Europe. So the criticism that the qualifications of East Asian scholars are less rigorous than those of Western countries makes little sense in the East Asian higher education contexts.

As well as the qualifications of students and professors, I should mention the college curriculum and subject knowledge taught in the classroom. Professors who earned their doctoral degree from abroad tend to incorporate the subject knowledge that they learned in their graduate programs into their undergraduate classroom teaching, so that the level of subject knowledge covered at the undergraduate class is similar to that of graduate education in the advanced countries as Shin et al. (2011) found in their curriculum analysis in Korea. Even the professors with domestic doctorates use or translate textbooks published in the West where most of the texts were written for graduate students rather than undergraduate students. In addition, we can discuss the quality of higher education from a quality assurance perspective. With the rapid growth of mass higher education, advanced countries adopted quality assurance mechanisms in the 1980s and now most higher education systems have a form of quality assurance (e.g., Harman 2011). As in the West, Asian countries also have aggressively adopted quality assurance systems, beginning in the 1990s (e.g., Hou 2012). Currently, most East Asian countries are a member of the International Network for Quality Assurance Agencies in Higher Education (INQAAHE). Although quality assurance does not necessarily lead to academic excellence because quality assurance is about the minimum criteria for accreditation and or recognition (Shin and Toutkoushian 2011), the adoption of quality assurance and joining the international quality assurance networks of these Asian countries suggests that these countries are confident of the quality of their education and intend to improve it.

In considering the qualification of students and professors, the subject knowledge taught in classrooms, the academic performance of the professors, and initiatives for assuring the quality of education in these Asian universities, we believe the quality of Asian university education is similar to that of American and European universities. European universities began to pay more attention to undergraduate education in recent years after adopting the Bologna Process in 1999. In addition, graduate course work is a relatively recent phenomenon in European countries and former British colonial higher education systems. East Asian higher education systems, on the other hand, adopted the US coursework and credit system earlier than either the European or British systems. It is therefore fair to say the quality of higher education in East Asian universities is no less than their peer universities in the West despite the massification of Asian universities which have in fact simultaneously accomplished a high standard both in quantity and quality in a short period of time.

1.6 Privatization and Cost Sharing

The growth of mass higher education in non-European countries (e.g. Anglo-American countries, Asia, the Latin America, Eastern Europe, Africa etc) is relying heavily on parents and students' contributions (e.g., Johnstone and Marcucci 2011; Levy 2006). Many developed countries are also suffering from the shortage of public funding with the growing demands for social welfare, the need to invest in national development, etc. Within limited financial resources, these countries began to allow individuals and/or private sectors to establish higher education institutions. This led to a growing higher education market with minimum inputs from public finance. These countries also allow private universities to charge parents and students (Shin and Harman 2009). Accordingly, private universities are considered to be the main driver of mass higher education development in these countries. The percentage of student enrollments in the private sector is noticeably high in East Asian countries and other rapidly growing higher education systems.

Conceptually, most private higher education institutions are located between the two extreme models: the pure market model and the public agency model (e.g., Salerno 2004). The pure market model sees the generation of economic benefit from the provision of education service provision and also allows the distribution of the benefits to investors (Shin and Harman 2009). These are called 'for-profit institutions'. A well known model is Phoenix University's online campus in the USA. The market model has also been adopted in some countries. For example, Malaysia allows the generation of economic benefit from the private university business. A well known case is Taylors University which was founded by an estate developer in Malaysia. In addition, many overseas campuses in China are for profit universities even though they are extensions of public universities in their home country (e.g., USA or Australia) (Mok 2008).

The other extreme case is the public agency model where the university is run by a private owner, but is publically regulated and funded (Salerno 2004). This is the case in Japan, Korea, and Taiwan. Although private universities are established by private donors, their legal status is that of a "public" corporation and governments are involved in institutional policy and administration through their legal regulations and guidelines, as well as through financial support. This model is similar to the public university in the USA where the university is publically funded, charges student tuition and is regulated by the state. In the public agency model, one distinctive difference between the pubic university and private university is that the latter is established and run by individuals or the private sector (not by the public sector), and the board of trustees are composed of individuals (not representatives from government).

However, it is simplistic to conclude that East Asian higher education is dominated by private universities. A critical question is what is meant by the term "private" university? The term has different meanings in different countries (e.g., Salerno 2004). The differences between East Asian universities and US universities reflect ideological differences between the two continents in terms of their social

perception of "education". In the Confucian Asian countries, education is basically a public good and public regulation is taken for granted. Political ideology in the US dictates that universities should keep their distance from government control and operate autonomously. Considering these differences between the two continents, we can say that East Asian universities are "private university, but publically controlled" while US universities are "public university, but privately controlled." In other words, there are more *similarities* between Asian private universities and US public universities, and more *differences* between East Asian private universities and US private universities.

As discussed, the expansion of higher education by private universities is not a serious social issue in the East Asian higher education systems. The designation as private or public simply reflects who established the university. Privatization, whether in public or private universities, is a social issue because the financial contributions from parents and students are continuously increasing in these countries even in the public universities (Shin and Kim 2013a). Rising tuition is caused by many factors, e.g., hiring more faculty members, providing better services, building new facilities, paying high salaries for their staff etc. Rising tuition is also an issue in the Anglo-American systems such as the UK, Canada, Australia and the USA. European universities also tried (or are trying) to charge student tuition fees, but there is considerable resistance from the public. The phenomenon of rising tuition fees is referred to as "cost sharing" by some academics (e.g., Johnstone and Marcucci 2011), but from the students' viewpoint it is "cost transfer" as Shin and Kim (2013a) have discussed.

High tuition leads to serious disagreements among politicians and policymakers as well as between students and professors (e.g., Shin et al. 2014b). Many countries have adopted a deferred payment approach which allows students to repay their loans once they are employed (e.g., Johnstone and Marcucci 2011). However, deferred payment does not mean that the financial burden on students and parents is lessened, but that the burden is deferred. It is not clear whether increased tuition is related to mass higher education, but the push to enhance the global status of a country's universities is one of major reasons for this rapid tuition increase. The logic of economy of scale suggests that the private universities that provide a large share of the tertiary enrollment should enjoy the benefits of mass higher education because the unit costs for teaching a pupil should decrease in mass higher education as mass industrial production does. Despite this, tuition for private universities is the fastest rising rate of tuition in these universities which suggests that massified higher education is not a cause of tuition rising but that global competition is, as Shin and Kim (2013a) have argued.

In the ongoing process of privatization, a critical issue is how to maintain the university as a channel for status mobility. Increasing public funding for higher education is one approach, and downsizing expenditure is another. Current academic discussions heavily rely on the increase of public funding, but the approach may not successful without an accompanying discussion on expenditure. Policymakers are reminded that the university is the black hole of resource exemptions as phrased by a US higher education scholar (Ehrenburg 2002). Academic discussions in the

future need to keep a balance between a funding related approach and an expenditure related one. In addition, we need to pay more attention to the impact of privatization (tuition increases in this chapter) on the equality of different students' background during their study and after they are employed. If students are heavily in debt because of their student loan, they might not be personally satisfied even though they find a good job. Further, I am skeptical of the belief that college graduates will find a job and repay their loans within a few years.

1.7 Managerialism and Academic Freedom

Universities have suffered for years from management inefficiency. University affairs are basically decided by faculty committees who are not known for effective and rapid decision-making (e.g., Baldridge 1971; Weick 1976). In addition, the demand for teaching, especially at the undergraduate level is increasing because they are academically less prepared than undergraduates were in the elite university stage (Shin 2013a). These increased demands and coupled with the inefficiency in decision-making led managerial reforms, beginning in the 1980s (Ferlie et al. 2008). The managerial reforms accelerated in the 1990s when globalization and neoliberalism began to spreads. Managerial reforms were widely adopted even in European countries, and Asian universities also adopted the reforms in the 1990s. An example is seen in the corporatization of the national universities in Japan, Korea, Taiwan, Malaysia, and Singapore.

Under neoliberalism, government policy initiatives opted to provide more autonomy to individual universities and control them at a distance through evaluation and quality control—such as quality assurance, accountability indicators, performance-based budgeting, etc. (e.g., King 2007; Ferlie et al. 2008). These reform initiatives allowed individual universities the freedom to set their own policies, but within the constraints established by the government through the designated quality indicators. As formal rules and regulations fade away they are being replaced by evaluation indicators. When combined with funding allocation, the indicators are very powerful. In addition, government agencies such as quality assurance agencies and research funding agencies became very involved in university administration through these evaluation policies. Within the university, the managerial reforms empower university mangers (president and his/her staff) and seek to improve decision-making efficiency.

The management transformation resulted in *decentralized centralization* according to Shin and Harman (2009)—universities seem to be relatively free from rules and regulations imposed by government, but are now controlled by the new guidelines and rules imposed through predetermined indicators and by government agencies. In addition, university mangers have become deeply involved in university affairs, especially in relation to education and academics are losing their influence in the decision-making processes (e.g., Sarrico and Melo 2012). Professors

are maintaining their autonomy in research related issues, but there are many signs that their influence on contemporary higher education is being challenged (e.g., Henkel 2012). Universities prefer to hire fixed term and contract based employees who are assigned to either research or teaching, resulting in a decreasing number of academics who are involved in both teaching and research (Shin et al. 2014a). Academics working in this system are not particularly concerned about academic freedom but are more interested in the area where they function – either teaching or research (Locke et al. 2011). This fragmentation can be observed globally according to the CAP study.

These changes have produced some serious problems in East Asian higher education where the seniority based academic culture is institutionalized and state-oriented administrative culture is embedded long period. The social demands for accountability are a burden to junior academics because universities tend to apply the new rules and regulations to the newly hired academics (e.g., Shin and Jang 2013). In addition, the legal status of junior academics is less secure because they are hired for a fixed term. Overall, academic freedom is diminishing especially for junior professors. A core issue in contemporary higher education is how to balance managerial efficiency with academic freedom.

1.8 Over-Education and Unemployment

The development of mass higher education is accompanied by over-education and unemployment of college graduates. In the knowledge society, even service jobs require a high level of knowledge and skill as discussed by Teichler (2001, 2009). The functionalist perspective does not make sense in job markets where a large share of highly educated people is unemployed. The unemployment of college graduates is a serious social problem in Japan, Korea, China, and Taiwan. Their high unemployment rates could be partially explained by conflict theory—the rapid growth of mass higher education is not caused by social demands for economic development, but by the competition for social positions (e.g., Brown and Tannock 2009; Collins 1979). This perspective makes more sense in relation to the higher education systems that have grown rapidly, and the unemployment rate of college graduates is relatively high.

In reality, the high unemployment could be explained by rapid technological development, the low quality of college education, and a mismatch between job markets and students' demands for education (Teichler 2009). These factors interact to produce high unemployment in these countries. The high unemployment rate is a serious social issue, especially in the countries with higher college enrollment rates, and leads to additional social costs, e.g., for education, for social welfare, and job mismatches between industry and potential employees (e.g., Atkinson et al. 1986). In addition, these societies are also struggling with job mismatch because college graduates do not want low-level work, so then employers wishing to hire secondary

school graduates suffer manpower shortages. The high unemployment of college graduates brings serious economic and socio-political problems.

The East Asian countries supported mass higher education development through their economic development during over the past two decades (Shin 2013a). However, the growth rate is approaching a plateau in the developed economic systems such as Japan, Korea, Taiwan, Singapore and Hong Kong although the growth rates are still high in the developing systems. In this context, the unemployment rate is a serious issue. In addition, the economic structures of the developed economies are moving toward hi-tech industries which hire only small numbers of people most of whom hold advanced degrees (doctoral degrees) (Brown 2003). College graduates find themselves positioned between low skilled workers and hi-tech knowledge workers. Unemployment will not be solved through the same policy initiatives such as school to work programs because the problems are related to the structural changes of the economy and job market. What to teach college students remains an ongoing discussion for policymakers, institutional leaders, and professors.

1.9 Conclusion: The Future of the Post-massified Higher Education

One academic inquiry is whether post-massification will continue and the other is what the next stage of post-massified higher education will look like. It is relevant in the context that most secondary school graduates undertake a form of tertiary education. While the increase of higher education enrollment is a policy goal for many countries, those with maximum tertiary enrollment rates are struggling with another problem—how to develop new models for post-massified higher education. The Asian countries that are approaching the top level of tertiary enrollment are the ones leading the academic discussions. One scenario is to retreat to the optimal levels of tertiary enrollment while the other is to develop the model for the next stage based on tertiary enrollment of near 100 %.

Although some policymakers' and scholars' view on the optimal size of higher education enrollment is based on their economic efficiency perspective, others' perspective that regards more education is better is widely held by education scholars. In reality, it is not easy to downsize higher education enrollment through policy initiatives in the current situation. Shin (2013c) argues that college education became an extended version of upper secondary education because of the explosion of knowledge they are expected to learn.

If schooling years became longer, then the social functions of undergraduate education changes from "higher" education to become a part of "normal" education (Shin and Harman 2009). The social function of undergraduate education is replaced by master and doctoral education. There are some signs of these changes. Professional training programs used to be part of undergraduate education in East Asian countries and these programs are moving toward graduate

education (master level) in some East Asian countries including Japan and Korea. In addition, undergraduate curricula are changing from subject knowledge in a specific academic major to a combination of competency and subject knowledge in an academic major. Reflecting these changes, the AHELO project, led by the OECD, adopted a model that combines both competency and subject knowledge for measuring college students' learning outcomes. The OECD's initiative recognizes that curricula for undergraduate programs have already changed in many membership countries.

These changes in higher education bring systemic changes in higher education practices. First of all, a research driven teaching model is not relevant in post-massified higher education because the model was designed in the era of the elite university. Instead, the post-massified university as a part of normal education is required to focus more on the transmission of knowledge instead of knowledge discovery. Second, the professors who teach undergraduate students are expected to conduct different types of research from those who teach graduate programs, so that these professors conduct research more aligned with educational research rather than the discovery of cutting edge knowledge. Education research is the research that focuses more on what to teach, how to teach, and how to evaluate students' learning outcomes in each field.

With these changes, undergraduate education might pursue more efficiency of teaching which is less valued in the research driven teaching model. The undergraduate curriculum will be more standardized and assessment also will be more comparable across universities and across countries as the AHELO project achieves its targets. The standardization of curriculum and assessment enables the provision of undergraduate education at a lower cost leads to identifying the optimal size of a university. This is not easy when the universities seek to be research focused institutions, especially when they are competing for global status through their research productivity. The competition for global rankings is akin to an arms race where bigger means more competitive in many cases. With the transformation of undergraduate programs, college tuition will be substantially reduced because of the efficiency of management and should result in lower tuition fees in the long run.

East Asian higher education will reveal whether these transformative changes will come about because many East Asian higher education systems are approaching maximum tertiary enrollment. Because of this, growing numbers of policymakers and higher education researchers are paying attention to the East Asian higher education situation. East Asian higher education may remain at the periphery of Western higher education systems despite having the highest tertiary enrollment rates in the world, or they may develop their own dynamic models for "post-massification." Academic researchers in the region are actively engaged in networking to understand these new phenomena which are not yet observable in the West. As a part of their collaborative efforts, they launched the Higher Education Research Association (HERA) in 2014. Their own academic efforts in collaboration with Western scholars will contribute to our knowledge of what comes after massification.

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Part I
National Strategy for Mass Higher Education

Chapter 2
Higher Education Development in Japan

Futao Huang

2.1 Introduction

With rapid economic growth and a dramatic increase in the number of students in higher education institutions in many Asian countries since the 1990s, higher education systems in these countries have evolved into the stage of mass higher education according to Martin Trow's definition (Trow 1973). Some countries, such as China, Singapore, and Malaysia, are making efforts to build up universal-access higher education systems by raising their enrollment to over 50 % of the age-cohort. Compared with many other countries in Asia, enrollment in Japanese higher education had already amounted to 24 % of the 18-year old age group by 1970 and its gross enrollment had increased to 51.6 % of the age-cohort by 1985.

Although Japan established one the largest higher education systems in Asia much earlier than most of the other Asian countries and some European countries (including the UK, Germany and France), little research has been published in Japan on this topic other than a few Japanese books and articles by Amano (1996, 2003), Kitamura (1999), and Ichikawa (1995). This chapter will address the research question: how did Japan's higher education shift from massification, through to post-massification and to near universal access? By examining the changes in the enrollment in Japan's higher education based on quantitative analysis, the chapter will provide an example of how an Asian country had experienced different stages of the growth in enrollments in higher education. Moreover, it is also argued that the major findings from Japan's case study are not necessarily consistent with the definition of the three-stage linear changes in higher education enrollment by Martin Trow.

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The chapter consists of the following sections: definitions of higher education and post-massification higher education in Japan; the quantitative changes in Japan's higher education from the early 1960s to 2011; and the processes of expanding higher education over the period. The chapter will conclude by discussing some of the distinguishing characteristics of Japan's higher education expansion during the period.

2.2 Key Definitions and Terms

2.2.1 Higher Education

The definition of higher education can be formulated in a number of ways. In Japan, in a narrow sense, it typically refers to three major types of institutions: universities, junior colleges (*Tanki Daigaku* in Japanese) and colleges of technology (fourth year). In addition to these three types of institutions, it also includes specialized training colleges (*Sensyuu Gakkou* in Japanese), the Open University of Japan (regular courses), correspondence schools, and a few institutions founded by companies or corporations.

Normally graduates from senior high school or those who have completed 12 years of schooling are qualified to apply for admission to universities. At undergraduate level, the normal duration of study is 4 years, except for faculties of medicine and dentistry which require 6 years. Graduate education consists of master's level study and doctoral education. The typical length of study is 2 years for a master's degree and 3 years for a PhD or doctoral degree.

Except for very few 3-year junior colleges specializing in nursing and health sciences, the typical length of study in junior colleges is 2 years. Some junior colleges, mainly enrolling female students to learn Home Economics and foreign languages prior to World War II, experienced a rapid expansion after the 1950s. The junior colleges were initially founded as finishing schools for women being awarded terminal degrees, but even today female students still constitute an overwhelmingly share of their total enrollment. In relation to their specialized curriculum profile, a vast majority of them were enrolled in Human Science and Home Economics. Prior to 2005, graduates from junior colleges received an Associate degree, which is equivalent to the "Foundation Degree" in the UK or the "Associate Degree" in the USA. Since October 2005, a new degree called "Tanki daigakushi" meaning in English an academic degree awarded by junior colleges, replaced the old "associate".

Colleges of technology have lower entrance standards, primarily providing 5-year vocational educational programs for graduates from junior higher schools. The specialized training colleges ("Sensyuu gakkou" in Japanese) only appeared in the 1970s. Though some specialized training schools had existed in the nineteenth century, it is generally acknowledged that these pre-war schools have little connection with the newly-founded specialized training colleges. According to the Schools Law, specialized training colleges are expected to conduct systematic education to develop the abilities necessary for certain vocations or practical life, or

to enhance cultural standards. Similar to junior colleges, a large majority of those studying in specialized training colleges are female. Normally, specialized courses last at least 1 year but many are for 2 years or more. Most of these courses are concerned with medical science, cosmetology, and the subjects of design and fashion.

2.2.2 Enrollment in Higher Education

The overall rate of student enrollment in higher education institutions varies substantially depending on which institutions are included in the calculation. In this chapter, the rate of student enrollment in higher education institutions refers solely to the proportion of new entrant students in the age cohort (where normally the age cohort refers to the number of junior higher school graduates 3 years previously in Japan.). The gross rate of enrollment in higher education institutions corresponds to the rate of enrollment in all higher education institutions, whereas the rate of higher education enrollments implies only the percentage of students enrolled in universities, junior colleges and colleges of technology (fourth year) of the age-cohort.

2.2.3 Post-massification of Higher Education

The term "post-massification of higher education" means the process of transition from mass higher education toward the next stage of higher education expansion. By observing several changes in Japanese higher education since the 1970s, some Japanese scholars argue that as a national system of higher education moves from massification to post-massification, the following events will occur (Arimoto 1997; Zemsky 1997):

1. Budget retrenchment will force public agencies to focus renewed attention on the social and economic rationalization of university functions. At least one result will be a stronger system of public accountability.
2. The system of higher education will become increasingly privatized, either through greater expansion of the private sector or through increased reliance on student fees to fund public-sector institutions—or both.
3. Institutions of higher education will find themselves more responsible for their own management in an era of deregulation.
4. Market forces will increasingly supplant public policy in determining the scale, scope, and price of higher education.
5. With a growing number of institutions "on their own," public agencies and public opinion will seek to secure the quality of the system of higher education through new forms of accreditation.
6. As part of that effort to ensure quality, educational outcomes will prove increasingly important for gauging institutional accountability.
7. Inevitably, these changes will result in an increase in the level of psychological stress within the university.

In the United States it was suggested that beginning in the late 1980s, a series of emerging crises indicated that the system was moving toward post-massification. The process was characterized by increased public scrutiny, calls for accountability, the withdrawal of public support, price resistance and discounting, rising market pressures and competition, a shift toward vocationalism, and persistent problems related to the increase in time-to-completion of degrees. The process of moving from massification to post-massification varies greatly by country and national contexts. Some movement of Japan's higher education toward post-massification was seen as early as the late 1970s, but it occurred in significant scale only in the early 1990s before Japanese higher education could provide near universal access.

2.3 Changes in Overall Enrollment

The dramatic expansion of Japanese higher education was initiated in the late 1950s when Japan started its New Long-Term Economy Plan with the purpose of doubling its citizens' income. By 1963, Japan's enrollment had reached 15 % of the age-cohort, indicating that its higher education had entered into the phase of mass higher education. As shown in Table 2.1, the gross enrollment in higher education, including universities, junior colleges, colleges of technology, and specialized training colleges, increased from 15.5 % in 1963 to 51.6 % of the age-cohort in 1985; the enrollment in universities, junior colleges and colleges of technology rose to 52.3 % of the age-cohort by 2005. It took 22 years for Japanese higher education to evolve from the threshold of mass higher education into universal access in terms of gross enrollment in higher education, and more than 40 years for the enrollment in universities, junior colleges and colleges of technology to exceed 50 % of the age-cohort.

According to the changes in student enrollments, three different practical phases can be identified as follows. During the first phase, from 1963 to the late 1970s, the fundamental driving force for the expansion of Japanese higher education came from increasing calls from industry dealing with a rapidly growing demand for manpower in science and engineering (Amagi 1978). The dramatic expansion of higher education in Japan was driven by a need to satisfy the needs of industry and responding to economic development. Throughout the 1960s and the mid-1970s, Japanese higher education experienced a period of unprecedented growth—often characterized by the term "the first massification of higher education". During the decades prior, there had been a steady increase in the numbers of students enrolled in the already established higher education institutions, resulting in substantial growth in enrollment from 15.5 % in 1963 to 38.9 % in 1975. Among these institutions, especially private universities and junior colleges, enrollments grew from 70.5 % and 80.3 % of total enrolments in their respective sectors in 1965, to 76.5 % and 91.2 % in 1975 respectively (Tables 2.2 and 2.3).

In the second phase, from the late 1970s to the mid-1980s, the expansion of higher education was undercut by a growing set of external pressures. These included: government policy to control the dramatic increase in enrollment with the

Table 2.1 Enrollment in higher education: 1963–2011 (percentage)

Year	Type				
	Universities	Junior colleges and colleges of technology	Specialized training colleges	Universities, junior colleges and colleges of technology	Higher education institutions
1963	12.1	3.4	–	15.5	15.5
1965	12.7	4.2	–	17.0	17.0
1967	12.8	5.2	–	18.1	18.1
1969	15.4	6.3	–	21.7	21.7
1971	19.3	7.9	–	27.2	27.2
1973	23.3	9.9	–	33.2	33.2
1975	27.1	11.8	–	38.9	38.9
1977	26.3	11.9	9.5	38.2	47.7
1979	26.0	11.9	11.6	37.9	49.5
1981	25.7	11.7	12.4	37.4	49.7
1983	24.4	11.2	12.6	35.6	48.2
1985	26.4	11.8	13.5	38.2	51.6
1987	24.7	11.9	14.3	36.6	50.9
1989	24.6	12.2	16.0	36.8	52.8
1991	25.5	12.7	17.3	38.2	55.6
1993	28.0	13.4	18.2	41.4	59.6
1995	32.0	13.8	18.9	45.8	64.7
1997	34.9	13.0	19.5	47.9	67.4
1999	38.1	11.7	20.0	49.8	69.8
2001	39.9	9.4	20.8	49.3	70.1
2003	41.3	8.5	23.1	49.7	72.8
2005	44.2	8.1	23.9	***52.3***	76.2
2007	47.2	7.4	21.7	54.6	76.3
2009	50.2	7.0	20.4	57.2	77.6
2011	51.1	6.6	22.0	57.7	79.7

Source: RIHE (2012), MEXT (2012a)

purpose of exercising quality assurance on the private sector in particular, and the negative and persistent effects resulting from the 1973 "oil price shock", along with the 1973–1974 stock market crash on Japan's economic growth. Together these factors led to a reduced demand for university graduates. As a result, enrollment in universities, junior colleges and colleges of technology all stagnated with rates remaining at 38.9 % in 1975 only rising to 38.2 % by 1991. Similarly, during the decade from 1975 to 1985, the share of enrollment in both private universities and private junior colleges decreased from 76.4 % and 91.2 % to 72.7 % and 89.7 % respectively, indicating that the share of student numbers in the national and public sectors had expanded (Tables 2.2 and 2.3; Fig. 2.1).

However, in response to meeting the increased demand from high school graduates, a new type of educational institution, as mentioned earlier, the specialized training

Table 2.2 Numbers of students in universities by sector and year (unit: person)

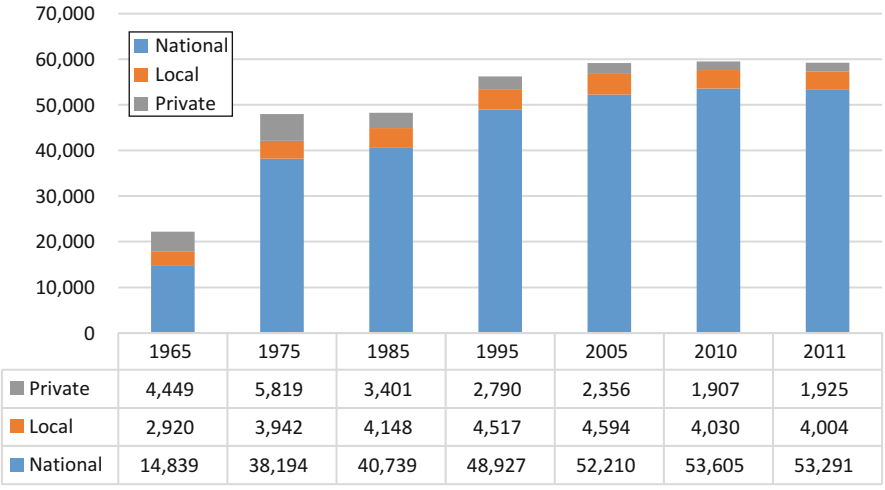
Year	Total	National	Local	Private	Percentage of private
1965	937,556	238,380	38,277	660,899	*70.5*
1975	1,734,082	357,772	50,880	1,325,430	*76.4*
1985	1,848,698	449,373	54,944	1,344,381	*72.7*
1995	2,546,649	598,723	83,812	1,864,114	*73.2*
2005	2,865,051	627,850	124,910	2,112,291	*73.7*
2007	2,828,708	627,402	129,592	2,071,714	*73.2*
2009	2,845,908	621,800	136,913	2,087,195	73.3
2011	2,893,489	623,304	144,182	2,126,003	73.5

Source: MEXT (2012b)

Table 2.3 Numbers of students in junior colleges by sector and year (unit: person)

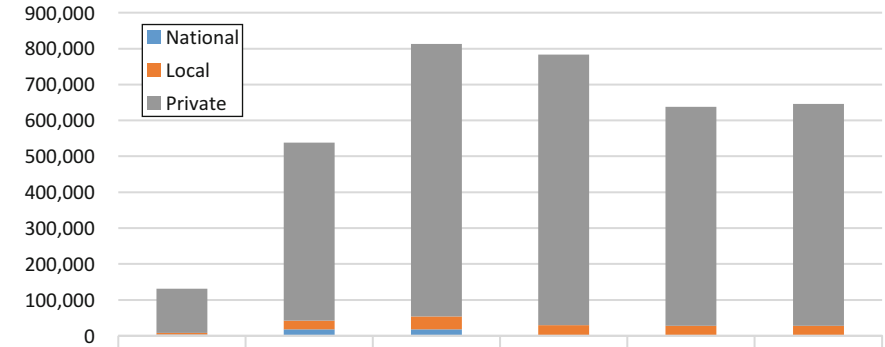
Year	Total	National	Local	Private	Percentage of private
1965	147,563	8,060	13,603	125,900	*85.3*
1975	353,782	13,143	17,973	322,666	*91.2*
1985	371,095	17,530	20,767	332,798	*89.7*
1995	498,516	13,735	24,134	460,647	*92.4*
2005	219,355	1,643	14,347	203,365	*92.7*
2007	186,667	184	10,815	175,668	*94.1*
2009	160,976	3	9,973	151,000	94.1
2011	150,007	0	8,487	141,520	94.3

Source: MEXT (2012b)



	1965	1975	1985	1995	2005	2010	2011
Private	4,449	5,819	3,401	2,790	2,356	1,907	1,925
Local	2,920	3,942	4,148	4,517	4,594	4,030	4,004
National	14,839	38,194	40,739	48,927	52,210	53,605	53,291

Fig. 2.1 Numbers of students in colleges of technology by sector and year (Source: MEXT 2012b)



	1976	1985	1995	2005	2010	2011
Private	123,370	496,036	759,588	753,888	609,951	618,043
Local	4,641	24,069	35,471	28,896	27,372	27,220
National	3,481	18,070	18,288	999	574	571

Fig. 2.2 Numbers of students in specialized training colleges by sector and year (Source: MEXT 2012b)

colleges, came into being in 1977. Although national as well as local public and private specialized training colleges were founded by central government, local authorities, and private school corporations separately, the number of students in the private sector accounted for the majority. As Table 2.1 demonstrates, enrollment in specialized training colleges has expanded continuously since 1977 in striking contrast to the steady drop in enrollment in the other three categories of already established institutions, universities, junior colleges, and colleges of technology. As suggested in Fig. 2.2, due to the fact that more than 90 % of these students were enrolled in private specialized training colleges, it was the emergence of the private specialized training colleges and their rapid growth that has led to accelerated expansion in gross enrollments since the late 1970s.

The stagnant growth in enrollment in universities, junior colleges and colleges of technology throughout the late 1970s and the middle 1980s was followed by another rapid expansion in higher education. Several important factors may explain this (Ichigawa 1995, p. 35). First, the contribution of private economic growth had recovered and overall family incomes increased. This caused a general increase in demand for higher education. Second, from the late 1980s, Japanese youth, born in the second baby boom after World War II, reached the age for entering higher education institutions. Because the Japanese government insisted on their policy of regarding higher education as an individual good rather than as a public good, public financial support for expanding higher education was rigidly regulated, thus giving rise to a rapid growth of enrollment in the private universities and junior colleges and specialized training colleges. Although the gross enrollment rose from 51.6 % in 1985 to 79.7 % in 2011 and enrollments in universities, junior colleges and colleges of technology expanded from 38.2 % in 1991 to 57.7 % in 2011, the

share of enrollments in private universities, junior colleges and specialized training colleges increased from 72.7, 89.7 and 93.0 % in 1985 to 73.5, 94.3 and approximately 96.0 % in 2011 respectively (Tables 2.2 and 2.3; MEXT 2012a). Furthermore, it is interesting to note that the increase in the enrollment in both universities and specialized training colleges was in marked contrast to the steady drop in the enrollment in junior colleges and colleges of technology, particularly since the middle 1990s. As Table 2.1 demonstrates, combined enrollment in junior colleges and colleges of technology decreased from 13.8 % in 1995 to 6.6 % in 2011.

In the first massification of higher education throughout the early 1960s to the middle 1970s, there was a dramatic and steady growth in the enrollment in universities, junior colleges and colleges of technology. Since the late 1990s, higher education has transitioned from post-massification to the stage of universal higher education in terms of net enrollment basically on the basis of the expansion of both universities and specialized training colleges.

2.3.1 Changes in Enrollment by Discipline

There is a clear division of labor between universities and junior colleges in Japan's higher education. Figures 2.3 and 2.4 show how the number of students at universities and junior colleges changed by discipline from 1965 to 2011. At university level, the greatest number of students was enrolled in Social Science, followed by Engineering, with the third largest in the field of Human Science. The three groups of students experienced a dramatic expansion from 1965 to almost 1995. After 1995 the numbers enrolled in Human Science, Social Science, and Engineering stabilized.

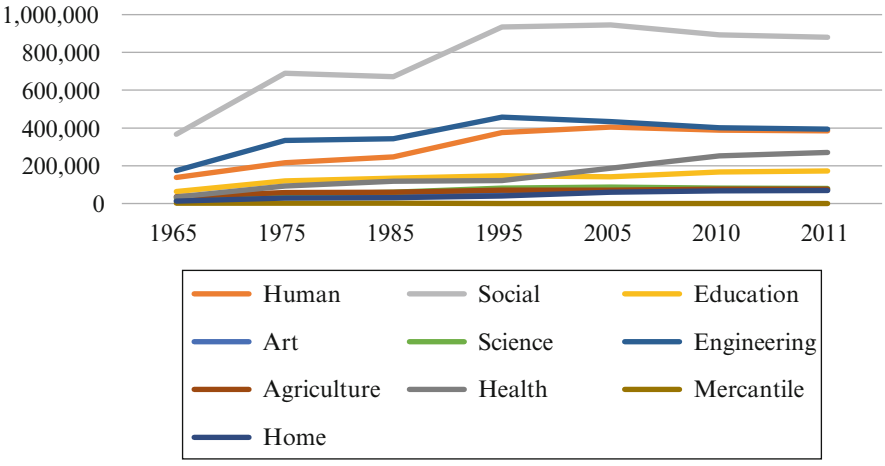


Fig. 2.3 Numbers of student in universities: by discipline (Source: Based on the data in MEXT 2012a, b)

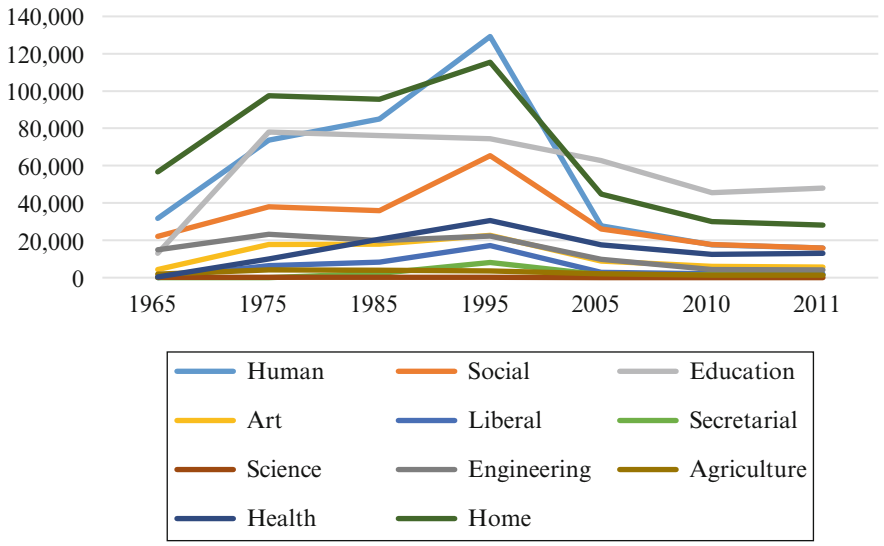


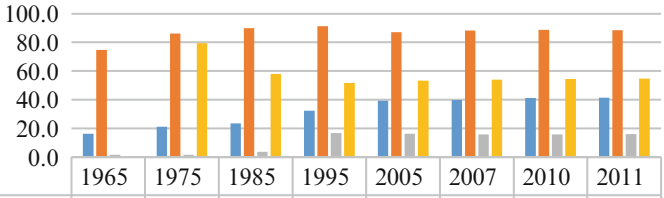
Fig. 2.4 Numbers of students in junior colleges by discipline (Source: Based on the data in MEXT 2012a, b)

In contrast, the numbers of students in Health Care and "Others" seem to have experienced a quick growth especially from 1995.

In junior colleges, the three largest groups of students were in Human Science, Home Economics, and Education (Fig. 2.4). While the number of students in Education began to decline as early as 1975, along with other disciplines such as Social Science, Agriculture, Liberal Arts, and Secretarial Studies, the decrease in the number of students in Human Science and Home Economics did not occur until after 1995.

2.3.2 Growth of Female Student Numbers

The number of female students in higher education grew rapidly from 1963 to 2011, stimulated by government policy and the changing notions about the role of women in society. During this period, the female student enrollment rate in higher education institutions increased by more than eight times. However, it should be noted that the growth of female student numbers was very slow in comparison with Europe and the U.S. This was largely due to social factors including changes in employment prospects, marriage expectations (a high proportion of Junior College graduates never enter employment), the need for care and protection of daughters, and the perceived relevance of courses. The share of female students in universities, junior colleges, and colleges of technology rose from 9 % in 1965 to over 50 % of the totals in 2011 (MEXT 2012a). Consequently, by 2011 female students constituted a



	1965	1975	1985	1995	2005	2007	2010	2011
Universities	16.2	21.2	23.5	32.3	39.3	39.8	41.1	41.5
Junior colleges	74.8	86.2	89.8	91.4	87.1	88.3	88.7	88.4
Colleges of technology	1.6	1.5	3.6	16.6	16.2	15.8	15.7	15.9
Specialized training colleges		79.4	58.0	51.7	53.3	54.0	54.4	54.6

Fig. 2.5 Enrollment of female students 1965–2011 (percentage) (Source: Based on the data in MEXT 2012a). Note: the data for specialized training colleges in 1965 refers to that of 1966

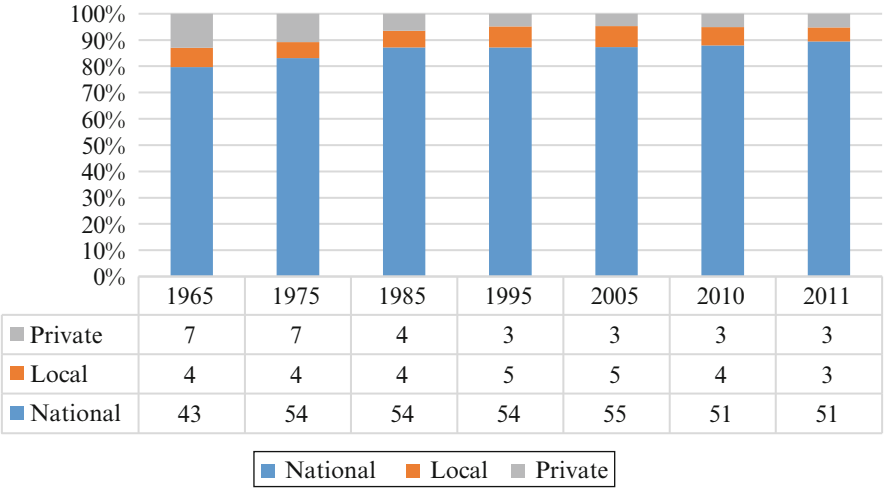
majority of the student body. In other words, the movement from massification through post-massification and toward universal access in Japanese higher education relied significantly upon the growth in numbers of female students.

As Fig. 2.5 indicates, the percentage of female enrollments constituted the largest share of total enrollments in junior colleges, followed by the share of female students in specialized training colleges among the four types of higher education institutions during this period. It is important to emphasize that the share of female students did not maintain a steady expansion over the period in all types of institutions. In contrast to the continuous growth of female enrollment in universities before 2011 and junior colleges before 2010, enrollment of female students in specialized training colleges continued to decline from 1975 to 1995.

2.4 Expansion in Higher Education Institutions

Corresponding to the growth of enrollment in higher education, the number of higher education institutions began to rise dramatically in and after 1963. In the period 1965 to 2011, the number of universities, junior colleges, and colleges of technology grew from 317, 369, and 54 respectively in 1965 to 780, 387, and 57. During this period the number of universities increased by more than a factor of 2 (MEXT 2012a).

With the largest share of the increase in enrollment occurring in the private sector, private institutions and especially private junior colleges experienced the greatest growth in numbers during this era. From 1965 to 2011, the percentage of private



	1965	1975	1985	1995	2005	2010	2011
Private	7	7	4	3	3	3	3
Local	4	4	4	5	5	4	3
National	43	54	54	54	55	51	51

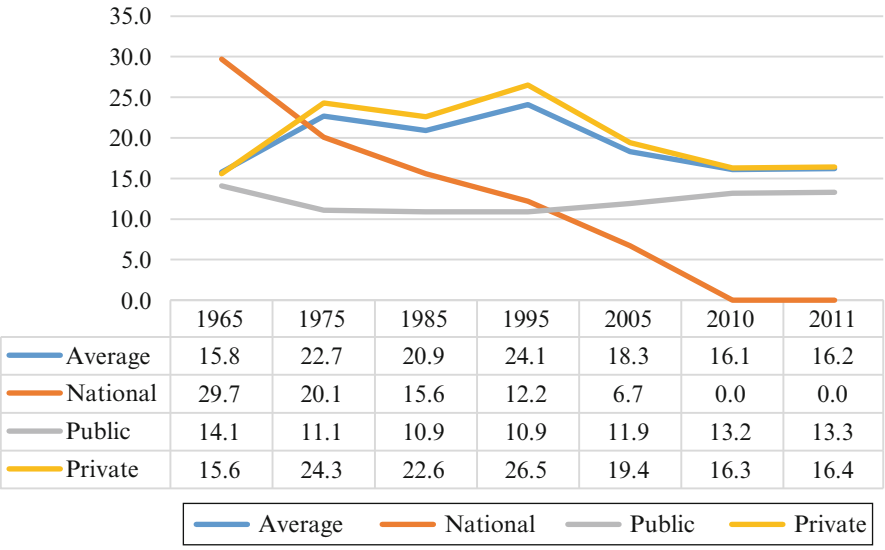
Fig. 2.6 Numbers of colleges of technology by sector 1965–2011 (Source: Based on the data in MEXT 2012a)

universities and junior colleges had grown from 65.9 and 81.6 % to 76.8 and 93.8 % respectively (MEXT 2012b). As mentioned earlier, a huge number of these 2-year junior colleges were primarily catering to female students. The majority of them were studying Humanities, Home Economics and Education.

In colleges of technology, the national sector accounted for the predominant share of the total, their number having increased from 43 in 1965 to 51 in 2011. This was in sharp contrast to the number of private colleges of technology which numbered only three by 2011 (Fig. 2.6).

2.4.1 Number of Students per Full-Time Faculty

As the numbers of institutions increased, so did the demand for faculty. According to the national data (MEXT 2012a), during the period 1965–2011, the total number of full-time faculty employed in Japanese universities, junior colleges and colleges of technology more than doubled, from 68,457 in 1965 to 190,315 in 2011. In particular, there was a sharp growth of full-time faculty in universities between 1965 and 2011, from 57,445 to 176,684. In parallel with the rapid expansion in full-time faculty in universities, although no radical changes occurred in the average number of students per full-time faculty, significant differences in the ratio of faculty to students could be found between national universities and private universities. Despite financial constraints, in recent years it remains a little above 1:10 in the national universities; in private universities the number of students per full-time faculty dropped from 29.3 in 1965 to 24.6 in 1985, and to 21.0 in 2011, but this ratio is still



	1965	1975	1985	1995	2005	2010	2011
Average	15.8	22.7	20.9	24.1	18.3	16.1	16.2
National	29.7	20.1	15.6	12.2	6.7	0.0	0.0
Public	14.1	11.1	10.9	10.9	11.9	13.2	13.3
Private	15.6	24.3	22.6	26.5	19.4	16.3	16.4

Fig. 2.7 Numbers of students per full-time faculty junior colleges (Source: Based on the data in MEXT 2012a, b)

far higher that than in national universities. There are many factors contributing to this. One of the most important is that the national universities have a higher proportion of laboratory and clinical courses, and of graduate students and courses. In contrast, the majority of private universities are teaching-centered and most faculty devote their time to providing lectures for a larger number of undergraduate students. At junior colleges, the total number of full-time faculty doubled from 9,321 in 1965 to 20,702 in 1995, followed by a gradual decline until 2011. Figure 2.7 shows that the changes by sector in the average number of students per full-time faculty occurred almost in line with these trends. The ratio expanded between 1965 and 1975, declined between 1975 and 1985, rose again between 1985 and 1995, and since then has continued to fall. Over the last 30 years, the number of students per full-time faculty in the few national junior colleges has decreased dramatically, from 29.7 in 1965 to 6.7 in 2005.

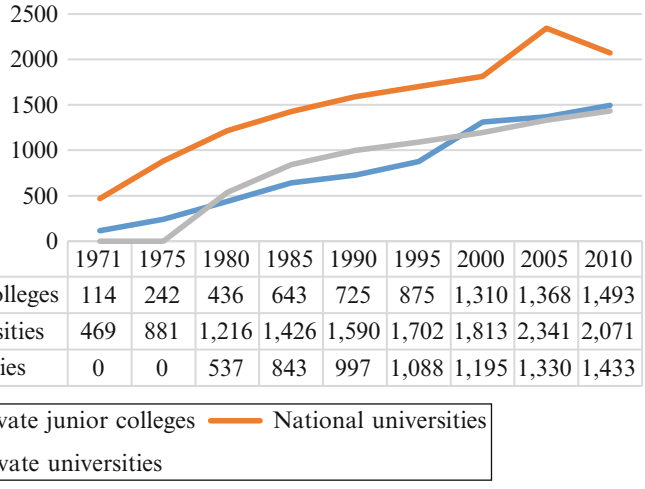
2.4.2 Changes in Operating Expenditure per Student

With a rapid expansion in private universities and junior colleges throughout the first period of massification of higher education, the Japanese government began to provide financial support for the private sector. Initially in 1971, public finance was allocated for students in private junior colleges. From 1979, students in private universities also received direct government support. According to the Private

School Promotion and Assistance Law, the government could subsidize up to 50 % of the current expenditure of private universities. However, the level of the subsidy has never reached 50 %: in the peak year of 1980, the subsidy reached 30 % of expenditure. At present, the private universities receive subsidies of about 12 % of expenditure (Maruyama 2010). In Japan, the financial support from government was directed to private institutions and not as subsidies for students. One of its nominal objectives was to reduce the tuition fees charged by private institutions although there is no strong evidence that this happened. Another objective was to enhance the quality of teaching and research activities in the private sector. In this aspect, much progress has been made particularly in the faculty-student ratio since the early 1970s.

Unlike Europe and the U.S., it is parents not students who expect to carry the financial burden of funding the tuition and maintenance costs of education. One consequence of this is that the government is sensitive to parental responses although the current need to cut public expenditure has take precedence. Historically, tuition at the national universities had been held at a relatively low cost, partly to ensure access for students from less affluent families. Many argue that increased fees in the national universities removes this social element. Nevertheless, the lower cost of study at the national universities and their high academic status will ensure that it is the private sector that carries the financial burden of the declining birth-rate.

As shown in Fig. 2.8, together with the national universities, government funding as operating expenditure per student grew steadily between 1971 and 2010. Although the amount of operating expenditure per student in both private universities and private junior colleges was less than that of national universities, the amount of



	1971	1975	1980	1985	1990	1995	2000	2005	2010
private junior colleges	114	242	436	643	725	875	1,310	1,368	1,493
National universities	469	881	1,216	1,426	1,590	1,702	1,813	2,341	2,071
Private universities	0	0	537	843	997	1,088	1,195	1,330	1,433

Fig. 2.8 Operating expenditure per student universities and junior colleges: by sector (current prices) (Unit: thousand Yen) (Source: Based on the data in MEXT (2012a)). Note: The number of students includes both undergraduates and postgraduate

operating expenditure per student in private junior colleges since 2002 has surpassed that of private universities. As indicated by Kuwaha (1993), although the government exercises regulation of private institutions through financial support, steady provision of public funding has made it possible for a majority of private institutions to improve their educational environments, especially in regard to teaching equipment and instruments. This is one of the reasons why private institutions in Japan could contribute significantly to the considerable expansion in higher education enrollment since the early 1970s.

2.5 Concluding Remarks

The evolution of the Japanese system of higher education from massification through post-massification and now to near universal access, experienced three distinct stages: from a dramatic expansion in enrollment, through a slowing and declining growth in enrollment to a new continuing rise in enrollment. In other words, the shift from massification, through post-massification to almost universal access did not occur as a steady and continuous expansion. The process of expansion in enrollment was interrupted for almost 10 years thanks to various external factors, indicating that Japan's experience did not completely conform to that described by Martin Trow (1973).

In the United States the process of moving from massification toward the stage of universal access both resulted in and was the product of the "publicization" of the higher education system (Gumport et al. 1997), whereas in Japan it was essentially a process of expanding private institutions. In other words, the process of post-massification toward universal access to higher education was characterized by "privatization" of the higher education system. The data show that enrollment in higher education not only expanded in junior colleges and specialized training colleges, but also in universities. By 2011, the private sector's share of students in the former types of institutions accounted for more than 90 % of the total, while in the latter it constituted more than 80 % of the total. As a result, the pattern of changes in Japan's higher education seems to conform to the original aim of the government: that is, to preserve the structure, excellence, and status of the national universities (at minimal cost) which are viewed as critical to meet the fundamental needs of the country for public servants, professionals and engineers, and to encourage private institutions to admit more students in practical and vocational fields of study. However, the importance of public funding for the private sectors, accompanied by the national supportive policy for expanding private institutions cannot be overestimated. Without that, Japan's higher education would not have expanded so dramatically over the past decades.

The unprecedented expansion in enrollments fostered a growth in the number of institutions – for example, a massive increase in the number of universities – but did not create the diverse and complex higher education system as occurred in

the United States after the 1960s. Except for the emergence of a few small and specialized training colleges, no fundamental changes occurred in the basic structure of Japan's higher education system. In a sense, the Japanese case study demonstrates that the expansion of higher education could be realized within an existing system without changing its basic structure, by relying upon the already established institutions.

The most significant change in the student body was the dramatic growth of female students from 1963 to 2011. The majority was enrolled in junior colleges and specialized training colleges, studying Human Science, Home Economics, and Social Science. Female students not only played a decisive role in stimulating the process from massification to near universal access to higher education, but also contributed to diversifying the student body. No data show a substantial increase in the number of part-time students, nor any growth in the numbers of mature students.

Note This chapter is considerably modified with updated data based on the paper written by Huang, F. (2012). Higher education from massification to universal access: A perspective from Japan. *Higher Education*, *63*(2), 257–270.

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Chapter 3
Higher Education Development in Korea: Accomplishments and Challenges

Jung Cheol Shin

3.1 Introduction

Korean higher education has been rapidly growing during last six decades. This growth is seen both in the quality of education as well as in quantity. The extent of this accomplishment is clear when we compare Korean higher education to other developing countries. When Korea gained independence from Japan in 1945, its higher education was quite limited with only 7,819 students enrolled in colleges (Lee 1989). By 2008, the tertiary enrollment rate was 98 % which is the highest among the Organization for Economic Cooperation and Development (OECD) countries. This is related to Korea's rapid economic growth since the 1960s. Economic growth has provided a job market for college graduates and enabled the government to invest public funding in higher education which in turn has provided high quality human resources for economic growth. These cyclical chains of higher education-economic growth have been developed through strong government leadership.

Since the mid-1990s, the quantity and quality of Korean higher education has been transformed through a comprehensive education reform policy (5.31 Education Reform) established by the Kim Young-Sam Administration (1993–1997). The Presidential Commission on Education Reform proposed 120 reform agendas. Of these, 14 agendas were related to higher education. These reform agendas were designed to enhance the quality of education as well as to provide better and more opportunities for diverse higher education clients (Presidential Commission on Education Reform 1997). Most of the policy agendas were continued by the Kim Dae-Jung Administration (1998–2002) and the Rho Mu Hyun Administration (2003–2007) (Presidential Commission on Education Innovation 2007). These

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policy efforts enabled Korean higher education to grow qualitatively as well as quantitatively.

In the late 1990s and the 2000s, the policy focus shifted towards knowledge production and national competitiveness in high-tech areas (Park and Leydesdorff 2010). The Korean government began to invest aggressively in research and development (R&D). For example, the Brain Korea 21 (BK 21) project is one of the well known projects (for details, see Shin 2009a) and subsequent policy initiatives such as World Class University, Humanity Korea (HK), Social Science Korea (SSK) were initiated by the Korean government in the late 2000s. Academic productivity by Korean researchers has increased significantly through these policy efforts. About 20 times more articles were published between 1990 and 2008 (1,382 articles in 1990 compared with 26,690 in 2008) (my calculation based on Web of Science data).

One question often asked is how has Korea accomplished such impressive growth in higher education at the same time as the economy has grown. Korean higher education and economic development mutually reinforce one another. Well trained human resources accelerated the economic productivity, and economic development generated resources to invest in higher education development. The success story of Korean higher education might be better understood through comparative discussions about other Asian higher education systems. This chapter therefore discusses Korean higher education development in the context of East Asian higher education. In the discussion, this chapter focuses on three factors (Western university ideas, the Confucian tradition, and the co-development of economy and higher education) to explain higher education development in Korea.

3.2 Higher Education Development in Korea

A brief discussion of some of the features of higher education development in Korea provides background knowledge for the following discussions. Specifically, this section pays attention to the policy approaches of the Korean government in the development of higher education. These policy approaches have implications for other countries. In an analytical review of government policy and the growth of Korean education, three characteristics are identified: an incremental approach to access from elementary to higher education, private institution-led enrollment growth, and an approach where quantity leads quality.

First, the rapid growth of Korean higher education is not independent of the growth of elementary and secondary education. The incremental approach was not intentionally designed by the government to develop education; rather, the incremental approach was a policy response to educational demand (Kim 2007). However, the demand for education and the policy response were interrelated and encouraged upward development from elementary to graduate education. Student enrollments reached their highest point in the late 1960s; middle school enrollments grew rapidly in the 1970s and mid-1980s; high school enrollments grew in

the 1970s and the 1980s; higher education enrollments in the 1980s and 1990s; graduate enrollments in the 2000s (for details, see Fig. 3.2). These trends show that Korean education has developed incrementally from elementary to graduate education over a period of six decades. Table 3.1 shows education development in Korea during the last six decades in terms of student enrollment, the national economy, and educational budget.

The incremental approach provided educational opportunity at the lower levels, but produced a bottle-neck at the upper levels (Byun 2010; Kim 2007). For example, many of the elementary school graduates had to wait for middle school admission which required applicants to pass a competitive examination. The competition was noticeable in highly rated middle schools because the student quota was very limited. As result, there was a long waiting list and some students even took private tutoring from upper high school students or college students. The middle school admission and its rigid hierarchy became an issue of concern. The government's response in 1971 was to expand middle school quotas and break the rigid hierarchy between middle schools through an exam-free middle school admission policy.

The bottle neck then moved up to high school because many middle school graduates who were admitted without an exam moved on to study at high school, especially at highly reputed schools. Three years after the exam-free middle school admission policy in 1974, the Korean government adopted a high school zone policy (or high school equalization policy – for details, see Byun 2010) to minimize the intense competition between high school applicants. The government began to apply the policy in metropolitan and mid-size cities. The high school zone enabled students to be admitted by a local school when they passed a high school admission exam. In addition, the government encouraged the establishment of high schools by providing teachers' salary and operating budgets for private schools.

Through the exam-free admission policy and high school zone policy, the competition between students moved to the exam for college and university admission. In the late 1970s, many high school graduates who had been admitted to high school under the school zone policy found themselves on a long waiting list for college admission. To respond to this dilemma, the Korean government adopted a policy to expand the student quota by allowing colleges to increase admissions by 130 %. This policy led to the first stage of higher education enrollment growth in the 1980s. The enrollment growth began to accelerate in the early 1990s (the second growth spurt) when the government chartered many private higher education institutions and increased the student quota again in 1990. Finally, a qualitative shift started when undergraduate enrollment plateau in the early 2000s, and graduate enrollment began to increase (the third growth stage).

Second, the rapid expansion of Korean higher education has mostly relied on the private sector. Korea has the greatest proportion of privately-funded educational institutions among the OECD countries (Shin and Harman 2009). Student enrollment in the private sector is over 80 %. A private sector-led growth of higher education is a feature of a fast growing higher education market in other countries also such as Eastern European countries, Brazil, India, and China (Levy 2006). Among

Table 3.1 School enrollment, economy, and education budget in Korea

Year	Elementary S. enrollment	Middle S. enrollment	High S. enrollment	Tertiary enrollment	Graduate enrollment	GDP per capita (US$)	Bud. total (Million KW)	HE bud. (Million KW)	R&D exp. (Million KW)
1965	4,941,345	751,341	426,531	127,126	3,842	106	15,331	1,915	
1970	5,749,301	1,318,808	590,382	163,511	6,640	279	78,478	6,635	10,547
1975	5,599,074	2,026,823	1,123,017	221,277	13,870	608	227,925	20,439	42,664
1980	5,658,002	2,471,997	1,696,792	563,748	33,939	1,674	1,099,159	144,967	211,727
1985	4,856,752	2,782,173	2,152,802	1,192,172	68,178	2,368	2,492,308	196,691	1,155,156
1990	4,868,520	2,275,751	2,283,806	1,379,951	86,911	6,153	5,062,431	409,782	3,210,486
1995	3,905,163	2,481,848	2,157,880	2,212,852	112,728	11,468	12,495,810	1,105,913	9,440,606
2000	4,019,991	1,860,539	2,071,468	3,130,251	229,437	11,347	19,172,027	1,782,249	13,848,501
2005	4,022,801	2,010,704	1,762,896	3,208,645	276,918	17,551	27,982,002	2,537,458	24,155,414
2010	3,299,094	1,974,798	1,962,356	3,223,734	316,633	20,510	41,627,519	4,635,494	37,928,500

Data sources: (a) *Annual Education Statistics* (Korean Education Development Institute, 1965–2010). (b) *Report on the Survey of Research and Development in Science and Technology* (Ministry of Education, Science & Technology, 1970–2010)

Notes: (a) GDP per Capita, education budget and R&D expenditure are current price. (b) Tertiary enrollment includes junior college, polytech, and university

the developed countries, the USA, Japan, Taiwan, and Korea have a large share of private institutions. Unlike European countries where private higher education was not welcomed by their governments, the Korean government adopted a flexible policy concerning the chartering of private institutions. The government's progressive policy toward private institutions allowed the government to reallocate resources for investment in elementary and secondary education, as well as in R&D. However, there was an issue with an underfunded government budget for higher education compared with elementary and secondary education.

Third, in the periods of expansion of higher education the Korean government also paid attention to the quality of higher education. Three governmental efforts were initiated to enhance the quality of higher education. The three policy initiatives were a quality assurance framework, performance-based and incentive funding (hereafter "incentive funding") systems, and aggressive research funding systems. Through these initiatives, the Korean government began to emphasize equally the quality of higher education as well as expanding access to higher education.

First, the Korean government adopted a quality framework to maintain quality during the period of fast growing higher education enrollment. For example, the government adopted a university evaluation system in 1982 immediately after the increase of student enrollment by 130 % in 1980. This evaluation system was transformed into an accreditation system in 1994 during the second stage of higher education enrollment increase (Korean Council for University Education 2001).

Second, the Korean government adopted an evaluation-based & incentive funding system in which institutional performance and university reform plans are weighted as the determinants of resource allocation (Shin and Jang 2013). The budget mechanism was expanded rapidly in the early 1990s and in 2008 the share of incentive funding was 90 % of the total higher education budget.

Third, the Korean government began to provide research funding to enhance the country's competitiveness in the global economy. To this end, the Korean government and private corporations began to aggressively invest R&D. The share of R&D in the GDP was the second highest (at 3.5 %) among the OECD countries in 2008.

3.3 Western University Ideas, Confucian Tradition, and Economic Development

Higher education scholars use diverse perspectives to address higher education development in Asian countries, especially in East Asia. This section explains higher education development in Korea in terms of three factors—Western university ideas, the Confucian tradition, and economic development. The discussion enables readers to compare Korean higher education development with that of other Asian countries. While the cultural tradition and the Western influence have been imposed on each country, some have been able to move forward while others remain stuck.

Although there have been long standing higher learning institutions in East Asia including Korea, modern university ideas developed in the Western countries

and were imported into East Asia in the 1800s. Although it is simplistic, well-known modern university ideas of the German, English, and French models are influential in their former colonial regions as well as in their own territory. Among these, the English and German models were imported and reshaped as the US modern university in the late 1800s (Clark 1983). The US modern university has been a strong influence in the East Asian countries since World War II (Altbach 1989; Cummings 2003).

East Asian countries have adopted modern university ideas and integrated them into the educational and cultural traditions of the region. For example, although higher education in Malaysia, Singapore, and Hong Kong China is based on the British model (Altbach 1989), these countries demonstrate different patterns of enrollment growth, academic culture, and governance systems. In East Asia, the Confucian tradition has strongly influenced their education, culture and social life in general. The adopted modern university idea has interacted with the educational and cultural traditions and has led to the current university development of the East Asia, especially in the North- East Asian countries (e.g., Japan, China, and Korea). In addition, economic factors should be acknowledged when discussing university development in East Asian countries (e.g., Marginson 2011; St. George 2006). The recent development of higher education in East Asian countries is closely associated with economic development in the region.

Through their interaction, these three factors have influenced higher education development in Korea as well as in other East Asian countries (e.g., Japan, China, and Taiwan). The Western ideas provided a basis for the university model (contents, governance, administration, academic culture, etc.), cultural and education tradition together influenced university development, and economic development drove higher education development.

3.3.1 Western University Ideas

As Altbach (1989) and Cummings (2003) have pointed out, East Asian countries imported the idea of the modern university from Western countries, such as Britain, Germany, France, and the U.S. These models were transplanted during colonization and are still influential in contemporary higher education in Asian countries. The one exception is Japan which imported the German model in the 1870s without undergoing colonization and developed its own model (Cummings 2003; Nakayama 1989). In contemporary higher education, the US model is very influential in Asian countries because these countries tend to benchmark the American university system (e.g., Kim 2007; Ma 2009; Wu et al. 1989).

The differences among East Asian higher education systems may stem from the different ideas about modern higher education in each country. For example, Great Britain influenced higher education in Singapore, Malaysia, and Hong Kong China. The German research university model has influenced Japanese higher education and in turn the idea was implanted in Japan's former colonies of Korea, Taiwan and

in some local areas in mainland China (e.g., Altbach 1989; Cummings 2003; Hayhoe 1995). French higher education had an impact on Vietnamese higher education. Clearly, Western educational ideas have left a legacy in contemporary East Asian higher education and these influences have been maintained through continuous interactions with the West (Altbach 1989).

Similar to most Asian countries, Korean higher education has been considerably influenced by Western higher education. Modern Korean universities can trace their origins back to one of three sources: Western missionary-established education, Japanese colonial government-established, and education philanthropist-established institutions (Shin 2011). Although the three types differ in their focus, most of the elements of the modern Korean university (e.g., academic courses, governance, academic organization, and teaching and research) came from the Western university model through Western missionaries, and Japanese or educated Korean leaders.

In 1924, during the Japanese colonial periods (1910–1945), the colonial government established Kyungsung Imperial University modeled after Tokyo Imperial University. The Kyungsung Imperial University adopted the German model through the Tokyo Imperial University which itself was modeled on the German universities (e.g., Kim 2007; Lee 1989). Since independence from Japan, however, Korean universities have imported many ideas from US universities (Lee 1989). For example, the former Kyungsung Imperial University was reorganized as Seoul National University in 1946 when the American military was ruling the southern Korean peninsula.

Since then, many students have studied abroad and brought back ideas from the West, especially from US universities. According to Lee (1989), 111 scholars were trained at a US university between 1945 and 1950. These scholars brought back ideas from the West to incorporate into Korean universities. Currently, 40 % of all Korean academics have been trained at a foreign university, and this rate of foreign trained professors has remained at similar levels since the 1960s. This suggests that Western universities have had a continuous influence on Korean universities although Korean higher education was already established and its performance noticed worldwide (e.g., Leydesdorff and Shin 2011; Leydesdorff and Zhou 2005).

The US model is represented by dual system of undergraduate and graduate education, departmental systems in academic administration, shared governance, differences in mission between institutions, course-based education, and the credit hour system (Clark 1983). The conventional German university has quite different features from the US model. For example, the German university emphasizes academic freedom, a rigid hierarchy between academics, and grants supreme power to the departmental chair. Their system is also marked by seminar-based academic training, equal social status of all universities across the country, and most of the universities are public (Clark 1983).

The current Korean higher education system is a hybrid of the German model (through the Japanese model) and the US model (e.g., Altbach 1989; Kim 2007). Some features of the German model are embedded in Korean higher education. For example, Korean scholars emphasize seniority in their academic relationship (Shin and Jang 2013), policymakers consider all universities as equals, and government

policy does not acknowledge institutional diversity in its administration (Shin et al. 2007). On the other hand, Korean universities have been influenced by US universities, adopting the US department system (rather than the German chair system), course-based credit hour (rather than the German seminar course), charging students for tuition, and relying on the private sector to provide a large proportion of higher education. In point of fact, US models have been influencing higher education worldwide. Even European universities benchmark US universities to enhance their competitiveness in the global economy (Teichler 2009).

The US model provided the basis for the transformation of Korean higher education from elite to mass and universal higher education. The German notion of university being for selected elite students whereas the US is more open to the general public as well as selected elite students. By adopting US ideas, Korean policymakers began to encourage the rapid growth of university education. Many US university trained professors in Korea aggressively adopted innovative curricula and instructional methods as well as credit-based course systems and efficient administrative units (department systems) (Lee 1989). Together, these enabled Korean universities to absorb the rapid increase of university enrollment.

3.3.2 Confucian Tradition

Some scholars (e.g., Vogel 1991) explain the rapid economic development of East Asian countries from the perspective of the Confucian tradition as well as in terms of political factors (e.g., strong leadership, effective policy, state planning, and talented bureaucrats.). Similarly, the Confucian tradition is used to explain education development. For example, Marginson (2011) discusses four features of the Confucian tradition that relate to higher education development in East Asia: strong government initiatives, private investment in accomplishing universal higher education, one chance college entrance examination, and extensive investment to establish a world-class research university. These features may explain how the Confucian tradition has systematically influenced the development of higher education.

Among these features, a key factor is education enthusiasm in East Asian society. Just as the Judeo-Christian tradition is at the core of socio-cultural systems in Western society, Confucianism is at the center of social and cultural systems in East Asian countries (Lee 2002; St. George 2006). From a comparative perspective, this cultural tradition produced similarities in higher education development between some East Asian countries (e.g., Hayhoe 1995; Marginson 2011). In the Confucian culture, an exam-based filtering system was developed and education has functioned as a way to improve social status. The cultural tradition may be related to the rapid growth of education including higher education. These countries show noticeable growth in knowledge-based innovations too (e.g., Arimoto 2009; Chang et al. 2009; Marginson 2011).

The Confucian tradition had a profound impact on modern higher education in Korea. First of all, Koreans have a strong desire for education (educational

enthusiasm). As Lee (2002) argued, "…the educational enthusiasm of the Korean people was a major factor in expending the national higher education as well as to develop the national economy (p. 59)." Because of the strong desire to educate their children, parents invest a considerable proportion of their household income in their children's education. This desire for education drives the development of education, but it also brings problems such as over-education and shadow education at the same time (e.g., Dawson 2010; Lee et al. 2010).

Second, another social heritage of the Confucian tradition is the examination-based resource allocation in society. Education systems have been used as a way to filter out high ability people for public office and to limit educational opportunity for others. Both official employment systems and educational systems are highly interrelated and examinations have been used since the Silla Dynasty in the late-eighth century (A.D. 788) (Lee 2002). The examination based filtering systems have been applied in modern Korean education. Because of the strong social demands for higher education, the Korean government adopted a new policy to lighten the exam burden and to provide more opportunity for high school graduates in 1980 (Kim and Woo 2009). Since then, Korea has become one of the fastest growing higher education systems in the world.

Third, because of the strong desire for education and an exam-based filtering system, there has been intense competition for admittance to prestigious institutions including overseas universities. This competition led to a rigid hierarchy between universities (Kim 2007). This competition and the rigid hierarchy is a continuing issue in contemporary higher education. Ranking which is another aspect of competition has been an issue among East Asian countries, e.g., Korea, Japan, Taiwan, and China. Studying in a top ranked university significantly influence the later success of graduates because the alumni become a strong network. Consequently, students who failed to gain entry to top ranked universities attempt admission to highly ranked universities repeatedly. This intense competition between students has enabled Koreans to achieve extremely rapid growth in higher education over the past six decades (e.g., Kim and Lee 2006; Kim and Woo 2009).

Fourth, user pays' is widely applied in public as well as private higher education in Korea. In 2007, for example, 14.2 % of the education budget (more specifically the budget of Korean Ministry of Education) went to tertiary education with 86.8 % going to the other education sectors (Kindergarten, elementary, secondary, and adult education). This share of budget for tertiary education is quite low when compared with other countries: for example, 23.3 % in Australia, 21.9 % in France, 31.0 % in Hong Kong China, 18.4 % in Japan, 23.7 % USA, 17.4 % in UK in 2008 (data based on World Bank). Private institutions generate most of their operational budget (about 40–50 %) from student tuition. An important issue is how students and parents pay such a large share of university tuition. A low tax rate helps, as Salerno (2004) has pointed out in his paper on private higher education and public funding. Koreans pay about 26 % of their GDP as tax while in 2008 the tax rate of OECD countries averaged 35 % and North European countries over 40 %. In addition, rapid economic growth provides job opportunities enabling parents to pay for university tuition for their children. Korea's unemployment rate of 4 % in 2009 was the lowest among the OECD countries.

3.3.3 *Economic Development and Higher Education*

Economic development may explain the differences in higher education development across countries sharing a similar cultural tradition (in this paper, mostly the Confucian tradition) and influenced by the Western university ideas. One can argue that economic development contributes to higher education and vice versa, since higher education contributes to economic development through training human resources and providing a knowledge-base for industrial development. The training of human resources can be measured by the level of tertiary enrollment. While the causality between the rate of higher education enrollment and economic growth may be controversial (e.g., Psacharopoulos and Patrinos 2004; Windolf 1992; Wolf 2002), both are closely interrelated. The countries with the fastest growing higher education (e.g., Korea, Taiwan, Singapore, China, and Malaysia) also have the fastest growing economies.

The close link between economic development and higher education may explain why Asian countries differ in their higher education enrollment rate although they share the same culture (Confucian) and university ideas (Western models) (Hayhoe 1995). For example, although Japan, Korea, and Taiwan share the same university model and Confucian tradition, higher education development differs in each country according to their economic development. Similarly, while Singapore and Malaysia share similar cultural and historical contexts, both countries differ in higher education development. The close relationship between higher education and economic development is demonstrated in Fig. 3.1 where GDP per capita and tertiary enrollment is associated on the regression line.

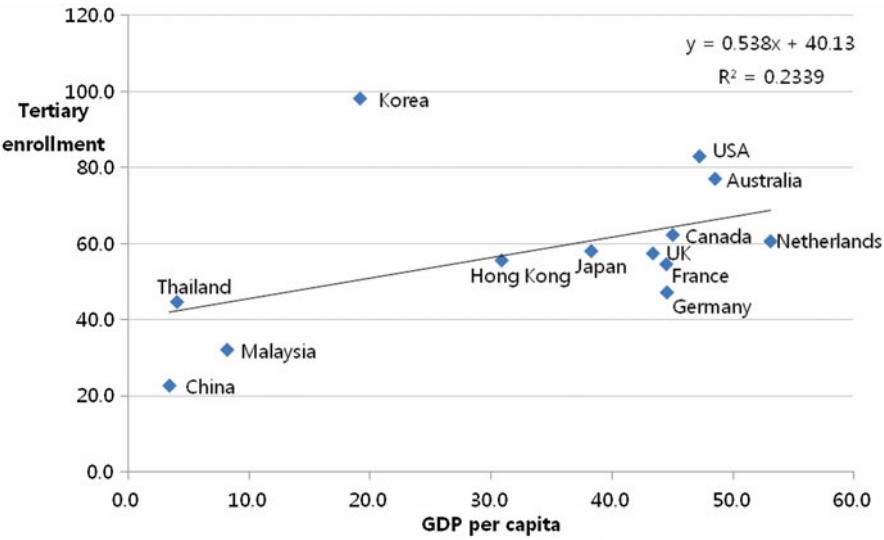

Fig. 3.1 Tertiary education enrollment rate (%) and GDP. Notes: GDP is thousand US$ in 2008

According to this, most countries are located close to the average (regression line) except Korea which shows a relatively high tertiary enrollment compared to its economic development. From an economic point of view, higher education enrollment has both positive and also negative sides (e.g., Heckman 2003). Although access to higher education has been emphasized and many countries have focused on enhancing tertiary enrollment, an oversupply of tertiary educated people is a cause of unemployment and may be an obstacle to further economic development (e.g., Wang 2003; Wang and Liu 2010). On the other hand, under-education is also detrimental to economic development, especially in a knowledge-based economy.

In the knowledge economy, academic discussion on higher education development moves its focus from enrollment growth to academic productivity (e.g., Altbach 2009; Shin and Cummings 2010) because knowledge is the source of national competitiveness. Enrollment may represent the quantity of higher education while academic productivity represents another higher education output. Further, higher education scholars begin to focus on the quality as well as the quantity of knowledge production. Along the same lines, scholars begin to measure how knowledge production correlates with industrial development in each country (e.g., Park and Leydesdorff 2010).

A noticeable feature of Korean higher education is that its growth has been closely related to economic development. Government policy has promoted this relationship. When the Park Jung-Hee government took power in 1961, it established a long-term plan with economic development as its primary focus. This policy was continued by President Park from 1961 to 1979 and by subsequent governments, emphasizing the development of human resources to stimulate economic development.

During this period, national policy focused on economic development and the policies for other sectors were regarded as supplementary to economic development (e.g., Kim 1997; Kwack 1998; Rha and Byun 2007). For example, it was believed that the rights of workers, freedom of speech, and academic freedom could be sacrificed in favor of economic development. Education was not regarded as independent from economic development, but as a supporting system through producing a trained and educated population. This is similar to other Asian countries where economic development is the priority (e.g., Cummings 2011; Wu et al. 1989; Wang and Liu 2010).

The contribution of education to economic development in Korea has been supported by rate of return studies (e.g., Kim 1986, 1997). This can be understood by reviewing the interrelatedness of industrial development and education development over the past four decades (Choi 1997). For example, elementary education provided critical manpower for labor intensive industry (light industry) in the 1960s and early 1970s. Secondary education was critical for chemical and heavy industry in the 1970s and in the early 1980s when this was the focus of economic development. Higher education became important when technology-based industry emerged in the 1980s and 1990s, and graduate education when the knowledge-based economy emerged in the late 1990s. The close link between education and economic development is demonstrated in Fig. 3.2.

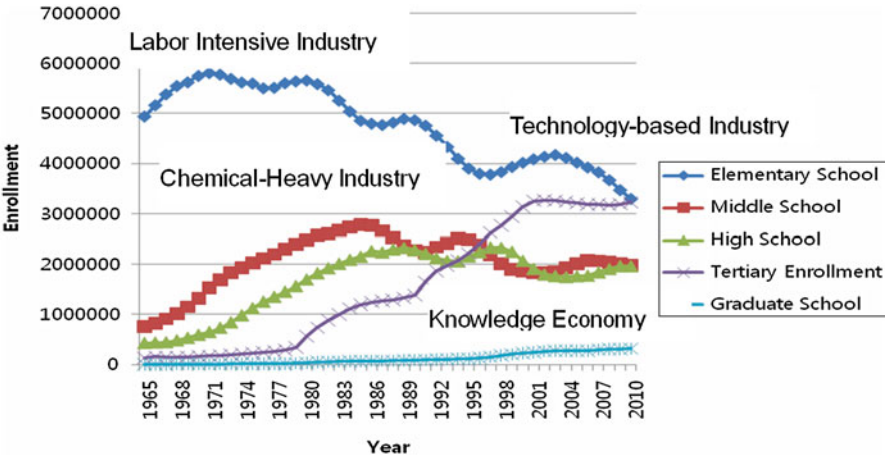

Fig. 3.2 Education and economic development in Korea (Data Source: *Annual Education Statistics* (Korean Education Development Institute, 1965–2010)). Notes: Tertiary enrollment includes junior college, polytech, and university

In the 1990s, with the movement toward a global economy, the Korean government began to move its industrial focus towards high-tech industry. The Korean government began to emphasize research productivity in its resource allocation in order to stimulate knowledge production and knowledge-based innovation. For example, the government developed several programs to fund knowledge production including the Brain Korea 21 program of 1999, designed to build research universities in Korea (Shin 2009a). The second round of the BK project was launched in 2006, and other follow up projects (e.g., World Class University, Humanity Korea, and Social Science Korea.) have been implemented. Although the Korean government has underinvested in higher education, it allocates the second highest level of research and development (R&D) funding (3.5 % of GDP) among OECD countries.

In summarizing the discussion, Korean higher education development is explained by the three components (Confucian tradition, Western university ideas, and economic development). Of the three dimensions, this section paid attention to co-development of higher education and the economy because economic factors best explain why some countries have well developed higher education while others are not although they share the same Confucian tradition and model for a modern university.

3.4 Challenges for Korean Higher Education

The rapid development of higher education in Korea has been accompanied by various challenges (e.g., Shin and Harman 2009). Noticeable challenges are related to the issue of quality, lack of mission differentiation between higher education institutions, uncompetitive graduate education, the lack of competitive research centers,

high unemployment of college graduates, increase in student tuition, insufficient public funding, and ineffective funding systems. This section focuses on mission differentiation between higher education institutions, uncompetitive graduate education, the lack of competitive research centers, and ineffective fund mechanisms as the major challenges. The other issues have already been discussed to some extent somewhere in this book including Chap. 1.

3.4.1 Lack of Mission Differentiation

Higher education institutions function differently depending on their mission focus because a university may not function efficiently in relation to all three of the major functions—teaching, research, and service (Shin 2009b). For example, the university is always struggling to deliver high quality teaching as well as excellence in research. This is related to the time available to university professors who find that assigning more time on teaching results in reduced time on research. Ideally, differentiating functional focus according to different types of higher education institutions (e.g., 4-year comprehensive university, 4-year polytechnic, and 2-year college) and also within the same type of institutions, contributes to organizational effectiveness. In Korean higher education contexts, 2-year vocational training institutions, 4-year polytechnics, and 4-year comprehensive universities are institutionalized as a system for providing higher learning programs. However, the functional differentiation between different types of institutions is breaking down with the rapid massification of higher education.

Four-year comprehensive universities began to provide vocational/technical training programs to attract more students and to provide better job opportunities for their graduates; 2-year colleges also began to provide humanities courses to provide education service at lower prices; in addition, polytechnics provide programs in social sciences and humanities and some of them have already evolved into comprehensive universities. Further, the formal differentiation between universities by national law (*Higher Education Law*) was eliminated in 1997 and all higher education institutions can use the term "university" in their name. With these changes, mission differentiation between different types of higher education institutions became less clear.

In addition, the mission differentiation between 4-year comprehensive universities is unclear in their program provisions because most 4-year comprehensive universities identify themselves as a research university regardless of their actual research capability (Shin 2009b). As a consequence, higher education institutions became similar in their programs, and their mission differentiated little from one university to another. Most Korean universities have more than 30 departments in all fields including arts and humanities, social sciences, natural sciences, and engineering. This is joked about as a "department store" which implies that Korean universities offer every program that a modern university can provide.

The Korean government attempted to differentiate mission focus between research focused and teaching focused universities by providing special research funding for research competitive universities (Shin 2009a). The Brain Korea 21 Project launched in 1999 is a representative project. However, this initiative led most Korean universities to identify as research focused in an effort to attract the BK project funding. In addition, a government initiative to improve research productivity resulted in the favoring of research performance-oriented personnel, faculty hiring and promotion mainly based on research productivity regardless of institutional mission focus (Byun et al. 2013; Shin and Jang 2013). Korean government developed new projects to make balance between research focused and teaching focused universities by providing special funding for teaching quality. However, again many research focused universities were funded from the project because.

With the rapid massification of higher education, mission differentiation between different types of Korean universities became a social issue as well as a policy one. The mission ambiguity of comprehensive universities has led to a drain on public resources, and pushed Korean academics to invest most of their time and energy on research activities. Determining how to influence universities to be more mission focused is a serious and continuing policy issue in Korean higher education.

3.4.2 Uncompetitive Graduate Education and Lack of Competitive Research Centers

Korean higher education developed in close relationship with foreign higher education. Since the 1960s, many Korean students have studied abroad and the percentage of Korean professors who are foreign degree holders is about 40 % as explained. The study abroad contributed to the rapid development of Korean higher education. However, this also resulted in Korean academics importing new knowledge from abroad instead of establishing their own research centers in Korea. Although President Park Jung-Hee established research institutions to provide a technological basis for economic development, many talented scientists and engineers continue to study abroad, mostly in the USA (Shin and Lee 2014).

Sending talented graduate students to study abroad may expose them to cutting edge knowledge and technology, but it also has negative impacts on Korean graduate education. Many competitive research universities are struggling with attracting talented graduate students because most master students from a competitive Korean university prefer to study abroad for their doctoral degree. This is related to a social perception that those with foreign doctorates are more research productive than domestic degree holders. However, this is not true as Shin and his colleagues (Shin et al. 2014) found in their comparative analysis of three higher education system--Korea, Hong Kong China, and Malaysia where large share of professors hold foreign doctoral degrees. In addition, the imported knowledge may or may not fit the Korean context, so that the social contribution of knowledge is relatively weak. This is particularly serious in the humanities and social sciences, where social

context provides a fundamental basis for research. Many professors who are trained from abroad struggle with their research once they return, and some simply replicate Western theories in Korean contexts.

Unless Korean universities strengthen their research capacities, this situation is unlikely to change. In addition, the brain drain of talented students will continue and make it increasingly difficult to establish competitive research centers, if the attitude towards domestic degree holders does not change (Shin et al. 2014). This is a critical policy issue because it is hard to support a knowledge economy without competitive research centers. Some aggressive policy makers have proposes a quota system, whereby a certain share of newly hired faculty members must be domestic degree holders. The Korean government has previously been successful in increasing female faculty numbers and decreasing the rate of academic inbreeding rate by adopting quota systems. The major concern now is how to change faculty hiring systems in favor of domestic degree holders without decreasing the quality of newly hired academics (Shin et al. 2014). Policy makers and institutional leaders could learn from Japanese higher education where most professors are trained at a Japanese university.

3.4.3 Ineffective Funding Mechanisms: Incentive Funding

The Korean government adopted incentive funding systems as a mean for bringing additional resources in the early 1990s. This is related to the rapid growth of mass higher education and the government's desire to reform universities. The incentive funding system is very attractive to universities because public funding has not been increased despite rising student enrollment rates since the 1980s. For example, all Korean universities were allowed to enroll an additional 30 % of their students in 1980 as a way of expanding access to higher education. The increased student population resulted in poorer educational environments in many universities, especially in private ones. Although the increased enrollments contributed to tuition revenues, the increase was not enough to support the necessary new building, infrastructure, faculty members, etc. In this context, incentive-based funding was welcomed by the cash-strapped universities as a new public funding source.

Before the Korean government adopted incentive funding systems, it supported the national university on the basis of headcount (the number of professors and the number of students) although a small share of public funding was assigned to private universities. A critical incentive funding policy was launched in 1994 to support national engineering schools (Shin 2004). Since then, the government has launched many follow up incentive funding schemes. In each case, a university is required to submit a proposal, including a proposal for the reform of their university, and the government assesses the proposals according to predetermined indicators (Shin 2009a). The incentive funding systems have led to Korean universities being more competitive because many reformed their academic programs, adopted course

evaluation and faculty evaluation processes, upgraded their physical facilities and infrastructure, and hired competitive professors (Shin and Jang 2013).

The funding scheme generated some problems as well as benefits. Universities began to strategically respond to the incentive funding to attract more resources. As a result, reforms happened mostly on paper, but less so in practice. Universities benchmarked other universities that were successful in attracting incentive funding with the result that universities became similar in their program provisions and even mission focus. For example, research focused universities apply for incentive funding for university-industry collaboration projects, which are mainly designed for technical universities and 2-year colleagues. Of course, research universities can contribute to university-industry collaboration, but the way that a research university contributes to industry should be different from a 2-year college or technical university. The incentive funding mechanisms contributed to improved quality of education in the beginning, but it appears to also have had a negative impact on Korean higher education.

As well as the problem discussed above, universities are losing their autonomy. Although the Korean government moved away from direct intervention in the university system, it is still deeply involved in administration (Shin and Park 2007). Among the indirect interventions, the most significant one is the use of funding indicators for incentive funding. These indicators encompass a wide range of university administration and academic affairs, and universities are always sensitive about the indicators included in the funding scheme. Under such evaluation, universities lose their autonomy and the government's indirect regulations become a major obstacle for the future qualitative development of Korean higher education. The Korean government is advised to review their funding mechanism and redesign it for more constructive future development.

3.5 Conclusion

The growth of Korean higher education is remarkable for its quality as well as quantity. The development has occurred incrementally from lower level education (elementary, secondary education) to graduate education. In the development, private higher education has functioned as the major provider of higher education service and its share of student enrollment is 80 % is the highest among the OCED countries. Because of the large share of student enrollment in private universities, education costs are paid by students and the user pays model has been widely applied. This is quite different from elementary and secondary education in Korea where most of the costs are paid by the government. Also, this is different from much of European higher education. Instead, the Korean government invests heavily in R&D to promote a knowledge-based economy.

The features of higher education development discussed in this paper are related to socio-cultural tradition (Confucian tradition), the model university ideas, and economic development in Korea. The modern university ideas adopted in Korean are based on the German model which was established by the Japanese colonial

government and drawing on the US university model after the World War II. However, the modern university ideas are intertwined with socio-cultural factors and have been embedded in current Korean universities. The Confucian tradition has affected Korean higher education development. As well as the Western ideas and the Confucian tradition, the growth of Korean higher education has relied upon the rapid growth of the Korean economy. Education development is well aligned with economic development in Korea thanks to government policy initiatives.

This framework can be applied in the analysis of higher education development in other countries. Higher education development cannot be solely explained by individual cultural, historical or economic factor. These three factors are interlinked and influence the development of higher education. The case of Korean higher education development has implications for other countries, especially the way in which the Korean government integrated education and economic development. However, this may not work in other contexts because the policy efforts of the Korean government are based on its unique cultural and historical context. The government strategy for user pays, for example, may not work elsewhere.

Academics are recommended to carefully review the historical and cultural contexts in their study of higher education development. This paper focused on the general features of the co-development of higher education and economy, but did not go into details of how the Korean government responded to the turbulent environment during last six decades (e.g., the oil shocks of the 1970s, the civil rights movement in the 1980s, globalization and the financial crisis in the 1990s etc.). Additional research is recommended on the policy dynamics that the Korean government developed in its unique cultural and historical context, and the turbulent environments it was faced with.

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Chapter 4
The Path Toward Mass Higher Education in China

Xiaoguang Shi

4.1 Introduction

In 2010, China became the second largest economy in the world, the culmination of a miraculous economic achievement built upon a three-decade-long effort to open up the country, beginning in 1978. China's taking-off economically led to numerous Western writers to assert that this was the start of China's return to glory. Bordering on the apocalyptic in some cases, especially with regard to the impact on the Western world, books such as Martin Jacques' *When China Rules the World*: *The End of the Western World and the Birth of a New Global Order*, David Smith's The Dragon and the Elephant: *China*, *India and the New World Order*, and Robyn Meredith's *The Elephant and the Dragon*: *The Rise of India and China and What It Means for All of Us* have further spurred a growing interest in everything Chinese (Rhoads et al. 2014, p. 62). Beyond the imagery of China as a fire-breathing dragon intent on consuming the world, lies the reality that the nation has returned in some sense to assume a key role on the world's economic and political stage. John Bond, former chairman of HSBC, noted, "The timing does not matter, but we in the West do need to prepare ourselves, particularly our young people, for a powerful and exciting re-emergence of China on the world scene. The first of the ancient, historic powers to return to glory."(Smith 2007, p. 94) Similarly, Ruth Hayhoe writing in 2005 states, "Many people would agree that one of the striking phenomena of the late twentieth century has been China's stunning economic resurgence, after more than a century in which its people suffered from invasions, wars, and internal political strife. Most governments and large corporations now see it as essential to articulate a China strategy in order to deal effectively with this new manufacturing powerhouse." (Hayhoe 2005, pp. 575–576)

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China's economic success has captured the world's attention, and certainly its significance as a player in the geopolitical arena is on the rise. But there is more to China's international objectives than simply asserting itself economically and politically (Rhoads et al. 2014, p. 63). More to the point, China's leaders and the national as a whole also place great emphasis on shaping a robust system of higher education that can completely support the rapid growth of China's economy and the need of societal development. For the past three decades, China has made great efforts to develop and reform its system of higher education. Since 1998 when the central government instituted the policy of expanding higher education, the system has also seen unprecedented changes such as the rapid expansion of enrollment, systematic innovation of structural re-organization, institutional mergers inside the system of higher learning, an improvement in teaching quality, and so forth (Shi and Englert 2007, pp. 347–360; Wan 2006, pp. 19–31).

One of the most striking changes contained in these reforms was the transformation of the Chinese higher education system from an elite to a mass one. As per Martin Trow's (1972) classification of three stages of higher education development (elite, mass and universal), the most important indicator of the different stages of development is Gross Enrollment Rate (GER), which refers to the percentage of the 18–22 years old cohort enrolling fulltime in higher education. The cutoff point between elite and mass higher education is 15 %, and between mass and universal higher education is 50 %. China's GER before 1997 was consistently less than 7 %, which was far lower than the 15 % criterion for mass higher education according to Trow's classification (Wan 2006, pp. 19–31). However, in 1998, the Central government (MOE) expanded the system by increasing admission and enrolment in order to meet social and economic development demands. The GER has quickly increased from 9.8 % in 1998 to 15 % in 2002 (only 4 years later). The figure marks the entry of Chinese higher education into the "massification" stage. On March 19th, 2006, Mr. Zhou Ji, then Minister of Education, officially expressed his view at a forum on China's development, that "since GER had reached at 21 %, with an enrolment of 23 million, Chinese higher education is now standing on the internationally recognized stage of massification." (He and Liu (2006/03/19) A newly-released statistic indicates that China's higher education institutions (HEIs) had enrolled over 29 million of the eligible age group of population by 2009 (MOE 2010) and GER had increased to 27 % in 2012 (MOE 2011).

How did Chinese higher education reach the massification stage so rapidly? Should this development be viewed in a positive or a negative light? What were the unique features of this process? What new opportunities or challenges have been created from the transformation of Chinese higher education? These questions regarding Chinese mass higher education deserve further analysis.

This chapter will adopt a descriptive approach as its methodology, and includes a literature review, examining the relevant issues and demonstrating how China has made mass higher education one of its national strategic objectives. First, this chapter will focus on the context in which Chinese mass higher education is embedded. Second, it will describe the impact of these changes, and finally, it will raise several challenges facing this higher education system and propose possible solutions.

4.2 The Pursuit of Massification: 1990s Onward

4.2.1 A Debated Topic

Since the 1960s the pursuit of mass, even universal, higher education has been a global trend. However, criticism, reflection and questioning are integral to the debate. In China there are divided opinions on promoting mass higher education in a way of expanding enrolment scale of higher education. Some proponents of rapid expansion have argued that higher education scale should keep up with the levels of economic development. However, China has traditionally lagged far behind in higher education development compared with other countries (Li and Min 2001, pp. 27–31). The average level of higher education in China in 1997 was far below the average level of developing countries. It was even lower than that of Vietnam and Thailand (Li and Min 2001, pp. 27–31). Given the high growth rate of the Chinese economy, the state of higher education was considered to be problematic and detrimental to economic growth. Rapid growth in the education sector was therefore desirable in order to better serve economic development and to meet social demands (Wan 2006, pp. 19–31). On the other hand, opponents of rapid expansion argued that expansion was constrained by the availability of state resources and the employment opportunities of college graduates in the labor market (Liu 1998, pp. 61–63). Theoretically, higher education should grow at a rate warranted by the level of economic development of the country (Wan 2006, pp. 19–31).

However, other argued that mass higher education in China had developed too rapidly, leading to a surplus of college graduates flooding the labor market. In other words, mass higher education had gone beyond China's current socio-economic demand level which should be perceived as a kind of over-education. As observed by Dr. Wu Daguang, professor at Xiamen University, who noted that China's expansion policy came to be partly because of policy-makers' traditional way of thinking as usually used in the planned economic period (Wu 2004, pp. 20–24). In fact, the conflict between these two schools of thought has, to some degree, led to the fluctuation in the government's policies concerning the goals and pace of the development of higher education in China in the 1980s and 1990s (Wan 2006, pp. 19–31).

4.2.2 Three Phrases

Historically, there were two periods in which Chinese higher education experienced rapid expansion and dramatic growth – from 1958 to 1968, and from 1978 to around 2000. Several scholars claim China has never stopped pursuing the dream of higher education for the masses since P.R. China was founded in 1949 (Huang and Zha 2009, pp. 2–18). However, mass higher education in China was not familiar conceptually or operationally to the academic community, governmental bodies, or the public until the 1990s, when Martin Trow's theory and its classification was introduced into China (Wang and Ruan 2010, pp. 3–6).

Looking back on the path to mass higher education, it can be seen that China has experienced three phrases of the development. The first phrase was from the early 1990s to 1998. Having undergone recovery of institutionalization and reconstruction of various systems in the 1980s, the higher education system in China opted for a normal developmental mode, called 'steady and moderate growth'. This was partially based on several limitations, such as financial constraints and shortages of institutional resources. During the period of the early 1990s to 1997, China shifted from the 'planned economy' to the 'market economy'. In keeping with the changes sweeping the rest of the nation, higher education was no exception in promoting changes in order to meet the need of economic development. In December 1992 MOE, then named "State Commission of Education" (COE) drafted a document named *Suggestion on Speed up Pace of Reform and Development for Regular Higher Education* (*Suggestion*), proposing four basic guiding principles for reform and development of higher education. The draft notes these principles as: (a) to expand enrollment; (b) to optimize construction of the system; (c) to control quality of education; and (d) to enhance efficiency and effectiveness. However, in February 1993 the State Council released *The Outline for Reform and Development of Education in China* in which emphasis was placed on principles (b) and (c), namely focusing on optimizing construction of the system and improving quality of education. More to the point, the first principle 'expand enrolment' was revised or replaced by a principle of 'steady and moderate growth'. In April 1996 The State Council officially released the *Ninth Five Year Plan and 2010 Vision* and insisted on the previous policies (Peng and Zhang 2007, pp. 32–39). The document noted that China continued to adopt the policy on expanding enrolment in a steady and moderate mode, but could continue to grow to the planned target of 6.3 million in terms of enrollment. The period 1992–1998 was also known as the period of reform for higher education. The emphasis for the reform was placed on two aspects: on the institutional reform of systems (including administration, management, operation, admission and graduation, and faculty's recruitment, appointment and promotion, etc.) and on instructional reform, including teaching and e-learning methods based on CAI (Computer Aid Instruction), updating teaching content, competency-based Instruction, and so on.

The second stage could be called the period of expanding higher education which lasted from 1999 to 2006. During this period, Chinese higher education underwent a dramatic expansion in terms of enrollment scale and GER growth. The reasons for this are complicated and diverse (the following chapter will analyze them in detail). In 1998, MOE formatted an *Action Plan for Promoting Education For the 21st Century* (*Action Plan*), which was approved and officially released by the State Council in January, 1999. It proposed two important and strategic objectives: (a) to deepen higher education reform to promote its steady growth and improve its quality, (b) to fully promote academic enterprises in order to expand the scale of higher education with the goal of increasing GER to 15 % by 2010. In short, the Action Plan is viewed as a road map for Chinese higher education for the twenty-first century. This was because its developmental target expected to (a) expand enrollment of higher education to 6.6 million college

students by 2000; (b) rise GER of higher education from 9.1 % in 1997 to nearly 11 % in 2000; (c) increase the faculty/student ratio from 10:1 in 1997 to 12:1 in 2000; and (d) to promote an increase of single regular institutions to nearly 4,000 on average (MOE 1999). In June 1999, the National Third Session Conference on Education was held in Beijing, and *The Decision on Deepening the Reform and Fully Boosting Quality Education* (*Decision*) was released. This document outlined the proposed implementation of a policy on enrollment expansion and the quota of enrolled college students. At the same time, the objective to meet the target of 15 % of GER by 2010 was reiterated in order to promote the transformation of higher education from an elite stage to a mass one. The process toward massification progressed so rapidly that the reality far exceeded the estimated goal in the national plans, such as the Action Plan, Five year Plan etc. By 2002, GER in China had reached the 15 % cutoff point. This result not only signified that Chinese higher education had stepped onto the mass stage, but also that it occurred 8 years earlier than expected based on the timetable set for 2010.

The third stage, from 2006 onward, was seen as a period of post-mass higher education, in which great emphasis was placed on improving quality by limiting both enrollment and the number of institutions. In May 2006, the State Council announced it desire to enhance the quality rather than expanding the scale of higher education. To respond to the call, MOE proposed that the percentage of increase for new enrollment should be limited to no more than 5 %, even below the 2006 figure. Meanwhile, MOE and the Ministry of Finance (MOF) jointly released an official document (No. 14th Ordinance of 2007) in 2007, which focused on improving the quality of undergraduate education as a way of initiating a so-called *Project for Quality Assurance*. The Project included several initiatives and steps: (a) to optimize structure in disciplinary distribution and to set up benchmarks for accreditation of programs; (b) to build a framework of curriculum and textbooks, and to encourage institutions to share all relevant resources or available facilities; (c) to reform the paradigm of instruction by strengthening innovative and applied activities; (d) to organize collaborative instruction and to recruit highly qualified faculty members; (e) to launch instructional assessment and emphasize data collection and disclosure in teaching; (f) to encourage institutions in the developed eastern region to assist those in the underdeveloped, western region under *The Program for Partner Assistance to Higher Education Institutions in the Western Region*. The project works successfully as it has been contributed significantly enhancing quality and comparativeness of institutions in western region.

4.2.3 Major Driving Force

The most popular explanation for the expansion seems to be the economic one, but the truth was not so straight forward. The policy of expansion was a combination of various forces, as noted in the book- *Li Lanqing's Interview Record on Education* (2003) by Mr. Li Lanqing, former vice premier in charge of education at the time

when the decision was made. He provided four major reasons for the policy-making on expansion: first, the need for more talented personnel to sustain the rapid development of the nation's economy; second, the increasing public demand for higher education and the government's obligation to meet that demand; third, enrollment expansion can postpone high school graduates' commencement of employment as well as increase educational consumption which is an important means to stimulate domestic consumption and promote growth in related industries; fourth, enrollment expansion reduces the pressure on high schools, discouraging test-oriented teaching and learning and promoting all-around education (SuzhiJiaoyu) in elementary and secondary schools (Wan 2006, pp. 19–31; Chen 2007, pp. 25–31). Premier Li's reasons can be viewed as the official explanation as to why the Central Government decided to expand higher education but does completely represent different views from various fields and the public arena.

Facing impending massification, scholars in academia also sought to give some rational explanations. Tao (2011) argued that the realization of mass higher education is due to a misunderstanding about Martin Trow's theory because many take the 15 % target as a core component of the theory. As a result, Central and local governments want to focus on the developmental target in pursuing the cutoff point of GER (15 %) in their higher education policy-making (Tao 2011, pp. 77–80). This was noted by Mr. Wu Daguang (2003) a Fulbright Fellow and visiting professor at UC Berkeley, when he met and interviewed Prof. Martin Trow who explained his theory is a warning oriented rather than a target oriented one, which means not necessary to take 15 % of GER as a strategic target to pursue In 2011, the German professor Ulrich Teichler (2011), expressed the same view in his article. He noted that Martin Trow has often been misunderstood. He did not talk about a "mass higher education era" or about a "universal higher education" era, because he did not consider "mass higher education" to be a substitute for "elite higher education", but rather a second sector with a specific character which also served in the preservation of the "elite higher education sector". Shang and Ding (2010) also summarized four reasons for the expansion: (a) a demand for highly qualified talent by the global knowledge economy; (b) the Asian financial crisis in 1997; (c) the high rate of unemployment in labor markets; (c) the influence of and international trend for mass higher education. The next section of this chapter will provide additional explanations.

4.2.4 Changing Environment

Since 1993, China has faced two environmental changes, both at home and abroad. Domestically, Chinese society has witnessed a shift from the planned economic system to a market one and also faced the challenges posed by a globalised knowledge economy. Alongside these shifts, the system of higher education in the 1990s began to confront both internal and external challenges and pressures, and determine what was needed to overcome them. On the international front, after tough negotiations, particularly with the USA, China entered the WTO (World Trade Organization) in

2001. Since then globalization and marketization of the economy have had many implications for Chinese higher education. First, higher education became crucial to economic growth with its contributions to the needs of the nation as well as society as whole. China's government at all levels are always put the preparation of talent, and the scientific and technical progress at the top of the agenda in the nation's strategic action plans, such as the National Five Year Plan (released in every 5 years), the National Medium and Long-term Guideline, etc.

In Higher education policy-making is generally subject to economic reasoning. Mr. Yang Rui, Professor of University of Hong Kong used to refer to that line of thought as "economic ideology of education" (Yang 2002, pp. 16–18). Second, from a political perspective higher education is the most important means for promoting social equity and justice as it functions well in social vertical mobility or social class stratification. China has traditionally always valued education. Because academic credentials are highly esteemed in Chinese society, more and more families encourage their children to pursue a higher academic degree. To have a bachelor, even master degree, is essential for some white-collar positions.

4.2.5 Academic Impact

In the mid-1990s, research conducted on expanding higher education, captured the attention of both academic circles and the wider public, as well as policy makers. Mr. Wang Yibing, who served with UNESCO in Bangkok, noted that Chinese higher education was staying at the elite stage, and falling far behind the Western Industrial countries that were at the mass or universal stages. He suggested the Chinese government take positive action to increase enrolment in higher education (Wang 1998, pp. 2–10). Mr. Chen Xuefei, Professor at Peking University, also a famous scholar in the field, wrote a paper (Chen 1998, pp. 10–15), predicting the mass higher education stage was imminent in China as early as the 1990s. He estimated that the Chinese GNP (Gross National Product) would reach 17 trillion RMB in total and 12,143 RMB per capita, by 2010. His prediction perhaps parallels the situation in the USA in the 1960s, when higher education entered the stage of mass higher education. Among the scholars' claims, the most influential was Tang Min's advocacy of expansion. Mr. Tang, then an economist with the Asian Development Bank Mission in China, was said to have written a letter to the State Council administered by then Premier Zhu Rongji proposing enrollment expansion (Yang 2011, p. 333; Wan 2006, pp. 19–31). Tang believed that doubling higher education enrollment in the next 3 years would not only encourage families to spend their savings on higher education but also stimulate investment in service, construction and other related industries. It would also eventually increase consumption by about 100 billion *RMB* (Tang 2006/Feb/6), which amounts to 0.5 % of the GDP. Education has always been one of the primary motives for family saving in China. Tang believed that Chinese families would be willing and able to pay for the expansion of higher education (Wan 2006, pp. 19–31). He also suggested

another potential benefit of enrollment expansion was the postponement of employment for high school graduates, which would alleviate the employment pressure on the labor market that had already been strained by the large number of laid-off workers from state-owned enterprises (SOEs). A number of Chinese economists expressed similar views as Tang (Wei 1999, p. A4). China in 1999 had just survived the Asian financial crisis and was still struggling with its aftermath. Mr. Tang's proposal seemed very attractive to the policy makers in the central government and his suggestion was adopted and soon put into practice (Xun and Xie 2003, pp. 31–34; Wan 2006, pp. 19–31). A timetable for achieving mass higher education was then laid out, aiming at achieving a GER of 15 % by the year 2010 (MOE 1999). Before long, the plan was revised so as to realize the goal of 15 % GER by 2005. In early 1999, the MOE initially proposed a 20 % increase in enrollment for that year. The plan was revised and the final plan set the target at an increase rate of 47 % (Wan 2006, pp. 19–31). Chinese higher education then began to move ahead at an unprecedented speed into the stage of massification.

4.2.6 Mixture Mode in Financial Support

Mixture Mode, also called "P-P-P Mode", refers to the mixture of public and private partnerships which provide a new mechanism in institutional income and financial support for the system. Before 1978, Chinese higher education, perceived as a public good, was free and the system was almost (about 98 %) fully maintained by public expenditure. From 1993, when China began to transition from a command economy to a market economy, non-governmental investment was encouraged in higher education. After 1995, influenced by the theory of cost-sharing, following to the principle of "who benefits, who pays", China gave up the old system of free higher education which had functioned in the planned economy for the past four decades and started charging tuition to those receiving higher education. In this manner a new mode of financial support emerged. Limited public expenditure was not the only source of institutional income. Instead, a multi-source system of the income of higher education replaced the outdated one as shown in Table 4.1.

First, public expenditure still plays a fundamental role in financially supporting higher education. Although, the growth rate of public expenditure lagged far behind the GER of enrolment annually, the total invested grew every year. Data indicate public expenditure in higher education more than doubled (2.6-fold), from 38.378 billion RMB in 1998 to nearly 100 billion RMB in 2005, and more than 290 billion RMB in 2011. Second, tuition and fees grew rapidly so that college students were expected to assume a high degree of financial responsibility for their college education. As shown in Fig. 4.1, tuition has risen by four times from 1997 to 2006 (Heckman 2002, pp. 1–17). Third, other income grew rapidly including private capital investment and institutional loans from the banks. As per statistic data from 1997 to 2009, the total institution income amounted to 2.6956 trillion RMB. About half came from public expenditure, other came from non-public income. The later

Table 4.1 Distribution of income for regular higher education from 1997–2009

Year	Total income for regular higher education (million Yuan RMB)											
	Total income for HEd	Rate (%)	Public exp		Private		Donation		Tuition & fee		Other income	
			Input	Rate (%)	Income	Rate (%)	Income	Rate (%)	Income	Rate (%)	Income	Rate (%)
1997	39,048	100	30,575	78	0.066	0.1	0.585	1.5	5,788	14.8	2,033	5.2
1998	54,934	100	35,675	65	0.156	0.3	1,146	2.1	7,311	13.3	10,645	19.3
1999	70,873	100	44,316	63	0.326	0.5	1,617	2.3	12,078	17.0	12,536	17.7
2000	91,225	100	53,119	58	0.659	0.7	1,518	1.7	21,670	23.7	16,778	18.8
2001	116,658	100	63,280	54	1.820	1.6	1,728	1.4	28,244	24.2	21,586	18.5
2002	148,786	100	75,215	51	3.314	2.2	2,783	1.9	39,065	26.3	28,410	19.1
2003	175,435	100	84,058	48	6.030	3.4	2,564	1.5	50,573	28.8	32,210	18.4
2004	212,976	100	96,979	46	11.220	5.3	2,154	1.0	64,679	30.4	37,853	17.7
2005	255,123	100	109,184	43	18.013	7.1	2,108	0.8	79,192	31.1	46,626	18.3
2006	305,777	100	130,252	43	23.433	7.7	1,948	0.6	129,104	42.2	21,040	6.9
2007	464,673	100	159,832	34	3.188	0.7	2,718	0.6	122,319	26.3	176,616	38.0
2008	375,854	100	200,351	53	3.017	0.8	2,863	0.8	141,813	37.7	27,810	7.4
2009	384,165	100	200,351	52	3.310	0.9	2,618	0.7	154,035	40.1	23,851	6.2

Source: Edited according to (a) data for 1997–2004 from MOE (2005), (b) data for 2005–2009 (MOE 2010)

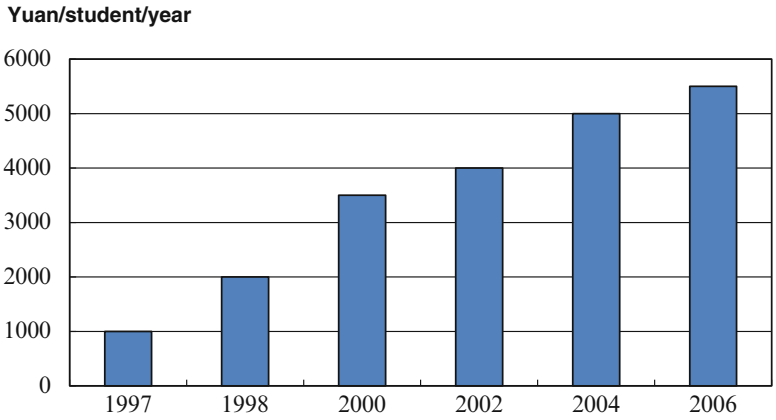

Fig. 4.1 Tuition price grew from 1997 to 2006

mainly consist of students' payment, private investment, and a small amount from donations (MOE 2012). Clearly, the realization of mass higher education in China has benefited from the shift from the old paradigm of a single source of public expenditure to the emerging paradigm of multi channels of fund investment.

4.3 The Impact of Massification

Although the decision to pursue expansion caused numerous debates following its announcement in 1998, the achievement of the goal has been praised both domestically and internationally. The impacts and aftermaths of mass higher education are invisible in terms of several consequences as followings.

4.3.1 Scale

The first direct consequence is the enlargement of higher education in terms of enrolment and institutions, partly because the mass higher education results in the rapid growth of the college population. Its aftermath also leads to the enlargement of the system. As shown in Fig. 4.2, both the enrollment and GER grew over more than a decade. The years between 1999 and 2004 were the fastest growing period in the past decade, perhaps even for the past three decades. Figure 4.2 also shows that the enrollment of new full time students dramatically increased from 1.08 million in 1998 to 5.40 in 2005, and then 6.89 million in 2012. Consequently, the total enrollment of regular undergraduate students (adult and online enrolment excluded) increased from 3.41 million in 1998 to 17.39 million in 2006, and then 23.91

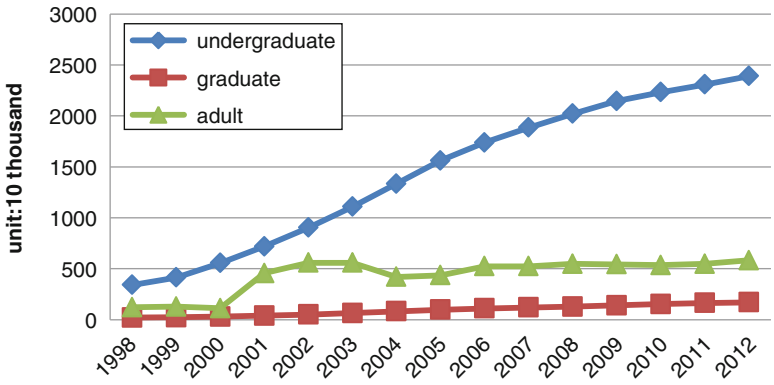

Fig. 4.2 Growth of enrolment of higher education: 1998–2012

million in 2012. Currently, the Chinese higher education system is one of the largest in the world. The enrolment of higher education increased year-by-year. Since 1997, the growth rate has slowed down particularly after 2006. According to 2010 statistics, the system consisted of two parts: one refers to 2,321 public higher education institutions (HEIs) consisting of 1,908 regular full-time higher institutions and 413 adult higher institutions. Among 1,908 regular higher education institutions are 740 4-year public universities and colleges, and 1,168 offering less than 4 years public higher professional and vocation. The other part refers to 1,521 private organisations consisting of 297 regular higher education institutions, 318 independent colleges, and 906 non-degree awarding institutions.

4.3.2 Structure

The second result is the changes in the structure of the system alongside the increase in enrolment and institutions. First, the total number of institutions has doubled in the decade. The growth rate varies by group affiliation, ownership, the institutional type, etc. There are two situations: on one hand, the number of less than 4-year higher professional colleges grew faster than the 4-year universities. On other hand, the number of the locally-affiliated (administered by the provincial Department of Education, referred to as DOE) HEIs developed faster than the national affiliation institutions (including MOE and non-MOE affiliated). The number of national HEIs decreased from 277 in 1998 to 113 (among them, 73 under MOE, 40 under other central agencies) in 2012. Meanwhile, the number of local HEIs grew from 855 in 2002 to 1623 in 2012 (Yan 2011, pp. 35–54; MOE 2012). Table 4.2 shows changes in the number of HEIs by affiliation and levels between 2002 and 2012. The decrease of national HEIs resulted mainly from decentralization. In the 1990s, the Chinese Central government launched a movement for reconstruction of the system through

Table 4.2 Comparison of number of HEIs by affiliation in 2002 and 2012

Year 2012 unit: institution									
		National HEIs			Local HEIs				
	Total	Sub-total	Under MOE	Under other central agencies	Sub-total	Under DOE	Under non-DOE	Local enterprises	Min-Ban (private)
Regular HEIs	2,442	113	73	40	1,623	967	604	52	706
4-year Inst.	1,145	109	73	36	646	578	67	1	390
Of which: Independent Inst.	303								303
Higher professional Colleges	1,297	4		4	977	389	537	51	316
Adult HEIs	348	14	1	13	333	118	170	45	1
Year 2002 unit: institution									
		National HEIs			Local HEIs				
	Total	Sub-total	Under MOE	Under other central agencies	Sub-total	Under DOE	Under non-DOE		Min-Ban (private)
Regular HEIs	1,396	11	72	39	1,154	776	378		131
4-year Inst.	629	103	72	31	522	464	58		4
Higher professional Colleges	767	8		8	632	312	320		127
Adult HEIs	607	20	1	19	333	334	251		2

Source: MOE (2002, 2012)

systematic reforms and institutional mergers. In order to "streamline administration, devolve powers to units at lower level" and "to extend the schools decision-making power in the administration of school affairs" (Mok 2001, pp. 123–149), one of the reforms in the higher education sector was to devolve decision-making power from the central government to the individual higher education institutions. That allowed more autonomy and flexibility to local governments and educators in directing the course of educational development (Wei and Zhang 1995). The central government (COE) in providing a framework necessary for educational development has deliberately devolved responsibility and power to local government, local communities, and other non-state sectors to involve themselves in creating more learning opportunities (Mok 2001, pp. 123–149).

Second, private (usually called "*minban*" in the Chinese context) higher education grew rapidly. Historically, *minban* institutions disappeared in 1952 and did not emerge again until the 1980s. In 1984, China's first *minban* HEI – *Zhonghua Shehui* University was established in Beijing. It was an outcome of the recovery of the private economy which was resurrected as an offshoot of the country's new economic diversification. (Yang 2004, pp. 311–374). In 1994, two *minban* institutions in Zhengzhou and Beijing were approved by MOE to grant Associate Degrees which meant the *minban* institutions were regarded as legitimate. The *Minban* sector of higher education has further developed especially since the mid-1990s as governments have realized its significance and begun to promote its development.

From the mid-1990s to the early 2000s was a phase of rapid growth for the private sector (Lu and Wu 2007, pp. 1–8). In the past decade *Minban* institutions grew very quickly (see Table 4.2), assuming a role as the new providers of mass higher education, although their capacity for preparing college students is much weaker than public regular HEIs. In 2006, there were 1,580 *Minban* institutions, making up 40 % of the total number, but they only received 2.86 million in enrolment, sharing 11.4 % of total. Additionally, there was a new type of institution affiliated to public regular institutions developed in the private sector, which were named independent colleges. The independent colleges look like branch campuses of public universities that could get supports from those flagship campuses in many aspects such as leadership, a few of faculty and staff teaching contents, etc. However, they are not branch campuses as they are also allowed to operate as a private sector, specifically in relation to charging students.

4.3.3 Effectiveness

The third outcome is improvement of institutional effectiveness. Table 4.3 shows that two indicators are used to measure how the effectiveness and efficiency of HEIs have been improved. Before 1998, the average of enrolment in HEIs was about 3,000, and the student–faculty ratio was about eleven to one. After the expansive policy was implemented the average enrolment of HEIs increased to nearly 10,000. More to the point, in 4-year universities and colleges enrolments increased three

Table 4.3 Change of institutional effectiveness from 1997 to 2009

Year	Student-faculty ratio :1			Average enrolment (unit: person)		
	Total	4 year HEIs	Less than 4 year HEIs	Total	4 year HEIs	Less than 4 year HEIs
1997	10.87	10.80	10.85	3,112	4,062	1,594
1998	11.62	11.63	11.09	3,335	4,418	1,701
1999	13.37	13.67	12.23	3,815	5,275	1,975
2000	16.30	16.04	17.65	5,289	6,916	2,282
20201	18.22	18.47	17.15	5,870	8,730	2,337
2002	19.00	20.60	14.20	6,471	10,454	2,523
2003	17.00	21.07	14.75	7,143	11,662	2,893
2004	16.22	17.44	13.15	7,704	13,561	3,209
2005	16.85	17.75	14.78	7,666	13,514	3,909
2006	17.93	17.77	18.26	8,148	13,937	4,515
2007	17.28	17.31	17.20	8,571	14,057	5,095
2008	17.23	17.21	17.27	8,679	12,097	5,564
2009	17.88	15.47	16.30	9,086	12,634	5,903

Source: MOE, statistic (2009)

fold from an average of 4,062 in 1997 to more than 12,634 in 2009. In higher professional or vocational institutions the enrolment increased four times from an average of 1,500 to nearly 6,000 in 2009. As a result, the student–faculty ratio fell from about average 11:1 to 18:1 during this time period. Of course a rising ratio of student and faculty can generate a negative effect on the qualitative issue of higher education, as will be discussed in the following section.

4.4 Post-massification: Reality and Solution

4.4.1 Harsh Realities

The idea of a post-massification stage of higher education was first proposed by Professor Akira Arimoto from Hiroshima University, Japan in the late 1990s (Arimoto 1997, pp. 1–20). He studied the course of evolution of higher education popularization in Japan and found that Japanese higher education in the late phase of mass higher education underwent enormous changes in relation to its management system, funding sources, and development paths under the influence of social, political, economic and other factors (Jiang 2011, pp. 103– 120). China is facing the same situation after having entered the post-mass higher education era. It has promoted socio-economic development politically, economically, and culturally. At the same time, it has also resulted in many harsh realities and a degree of social tension. Three such issues are now discussed.

4.4.1.1 Quality Issues

Quality is a "hot topic" in both academic circles and the public. Alongside the rapid growth in terms of enrolment and scale, the issue of quality assurance has become one of the most perplexing realities. Findings based on several studies, surveys and publications have recently concluded that the quality of higher education teaching is deteriorating (Huang and Mao 2011, pp. 12–18). The primary quality issues are mainly represented as follows.

The biggest problem confronting all institutions after the rapid expansion is the shortage of well-qualified faculty both in quantity and quality. The reality is the need to increase number of academic personnel because a great number of teaching and research posts needed filling. As a result, nearly half of the newly appointed faculty are under 35 years old in most institutions. They normally have acceptable educational qualifications but may lack sufficient teaching experiences (Shi 2011, pp. 97–102). Another survey of several institutions undertaken by a research group reports the percentage of faculty at age of 35 and below decreased from 52.3 % in 1998 to 48.3 % in 2006 (but 48 % of faculty at 35 and below still ranks on the top proportion of total faculty. Meanwhile, the percentage of senior faculty at age 51 and beyond fell steeply from 18.7 to 10.9 % at the same period. The percentage of faculty age between 36 and 50 increased from 29 % in 1998 to 40.8 % in 2006 (Institute for Teaching in New Century 2008, pp. 8–9).

Second, the teacher-student ratio decreased quickly as shown in Table 4.3 (fewer teachers for more students). More to the point, the size of the classroom increased and it is quite common for teachers to have more than 100 students in the classroom. The low ratio of student and faculty have negatively impacted opportunities for that effective interaction between instructors and learners in the classroom. It is said that the ratio reached as high as 1: over 30 (maximum). As the survey data showed in 2005, before the expansion 43.7 % of faculty generally taught an average of 6 h per week, 31 % taught 8 h per week, 15.5 % more than 8 h per week. After the expansion in 1999, these respective teaching workloads became 11.3, 23.5 and 58.2 % (Xie An et al. 2005, pp. 85–87).

The expansion led to increased tension over such issues as space of libraries, laboratories, and classrooms. The survey also found that about 50 % of the students complained that their experimental facility failed to meet their needs. In the case of libraries, 50.7 % of the interviewees were dissatisfied (Xie An et al. 2005, pp. 85–87).

Finally, in order to admit more promising students who could fill spaces generated by the expansion, the benchmark for admission has had to be lowered. In addition, the quality of higher education has increasingly deteriorated. College admission rates used to remain steady at 30 % of high school graduates but it has increased rapidly from 36 % in 1998 to 49 % in 1999, and reaching 56 % in 2000 after the expansion. In some developed economic regions, provinces, and municipal cities, such as Beijing, Shanghai, Tianjin, Liaoning and Jiangsu, the admission rate is nearly 70 % (Ji 2006, pp. 1–10). Many instructors complain that the newly enrolled students are less qualified than before, particularly in terms of their attitude, approach to study, as well as their level of expertise and capacity for work. This in

turn leads to a big gap between higher and lower performing students in the same cohort, making classroom teaching increasingly more difficult than before (Huang and Mao 2011, pp. 12–18).

4.4.1.2 Equity Issues

Equity issues are also a concern, and a perplexing problem. Currently, China has 4 municipalities, 22 provinces, and 5 autonomous regions. The economic and educational development gap amongst different areas is huge, and the higher education system in the eastern region is much more developed than the western region. According to the Educational Development Index (EDI), some indentify four education development tiers across the county. At the top level, Beijing and Shanghai are indentified as highly developed regions with EDI scores between 100 and 85. At the second tier, the provinces such as Zhejiang, Liaoning, Jiangsu, Zhejiang and Guangdong, are identified as relatively high developed regions with EDI scores between 85 and 70. At the third tier, provinces such as Shandong, Fujian, Hebei, Hunan, Heilongjiang, Hubei, Shanxi, Henan, Anhui, Shannxi, Sichuan, Xinjiang, and Inner Mongolia Ningxia are indentified as the moderate developed regions, and at the lowest tier, provinces such as Guangxi, Gansu, Qinghai, Yunnan, Guizhou, and Tibet are identified as the stagnant regions. For the lower two tiers, the EDI scores are below 70 (Min and Wang 2009, pp. 20–28).

The expansion after 1998 generated different effects in different regions or provinces in the county. As mentioned before, the national average GER of higher education reached 24.2 %, but there is considerable disparity between provinces. For those provinces, municipalities or autonomous regions with higher investment in higher education or historically equipped with numerous higher education institutions, the gross enrolment is much higher and vice versa (Ma 2011, pp. 55–77). Figure 4.3 shows the GER in 27 provinces in 2006. Four municipalities – Beijing, Shanghai, Tianjin, and Chongqing are not included in the Fig. 4.3, but data indicated that their GER exceeded 50 %, with the exception of Chongqing where the national average dropped because it was located in the western region as well as being an emerging municipality at the same time.

Another element regarding the equity of higher education is the disparity of institutional distribution by region and level. In China, there are 39 research universities, also known as Project 985 institutions (the top 39 in China), and 112 key high-level universities (the top 112, and including the top 39), also known as Project 211 institutions. Most Project 985 universities are located in the eastern developed regions. Beijing ranks on the top with eight Project 985 institutions; Shanghai ranks the second with four, XiAn ranks third with three, and Nanjing and Wuhan rank forth with 2. In addition, equity issues are also illustrated in terms of other disparities. For example, 187 HEIs are key high level universities. Of these, 24 Project 211 and eight Project 985 universities are in Beijing, each accounting for about 21 % of nationwide total respectively (Jiang 2011, pp. 103–120). In contrast, there are 36 HEIs in Yunan province. Only 21 4-year institutions are among them (including one Project 211 university).

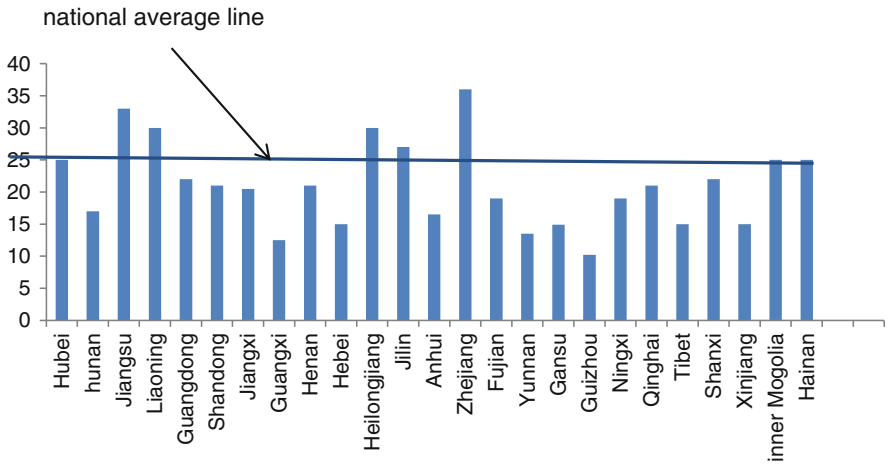

Fig. 4.3 Comparison of GER by 27 provincial regions in 2006 (%) (Source: Association of Chinese Higher Education 2009. p. 6)

Besides the two aspects discussed above, another reality related to the quality of higher education is that expenditure per capita has been reduced rapidly, as shown in Table 4.4. In addition, the gap in public expenditure per capita (counted only according to the regularly annual budget input) has been widening nationally since 2003. For instance, the total investment for higher education from provincial public expenditure in Guizhou was 521 million RMB over a 6 year period (2002–2007), while Shanhai invested 1.8 billion RMB into higher education in just 1 year (2006). That figure is more than three times as much as Guizhou had invested over 6 years (2002–2007) (Ma 2011, pp. 55–77).

4.4.1.3 Unemployment Issues

The third harsh reality China faces is the growing tension between demand and supply in the labor market, namely, an imbalance between graduation rate and employment opportunity. On one hand, the expansion in higher education since 1998 has provided more opportunities for students to receive college education. But the higher number of graduates is putting pressure on the labor market. As noted by some scholars, unemployment may rise to an unprecedented rate in the current labor market as it cannot support the number of university graduates, especially those from several provincial universities (Yue and Ding 2011, pp. 245–249; Wang and Huang 2011, pp. 250–257). For instance, the number of college graduates in 1998 was 830,000 but by 2007 this figure was 4.5 million, 5 million by 2008, and 6.1 million by 2009 – seven times that of 1998 (Wang and Huang 2011, pp. 250–257). Most graduates are expected to get a job, but a small number choose to apply for higher academic programs both at home and abroad. According to The Report on Chinese Education Development of 2005, also called the “Blue Book” and released

Table 4.4 Change for public expenditure per capita 2000–2008 unit: yuan (RMB)

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
National average	7,309	6816.23	6177.96	5772.58	5552.5	5375.94	5868.53	6546.04	7577.71
Maximum	–	–	–	15806.43	15819.95	17036.5	17228.36	21431.73	24380.4
Minimum	–	–	–	2040.77	1946.3	2076.09	2219.41	3125.25	3713.46
Ratio of max./min (gap)	–	–	–	7.75	8.12	8.21	8.21	6.86	6.57

Source: Quoted from Zhang (2012). Data for National average during 2000–2002 accounted as per MOE

by the Institute for twenty-first Century Education, only 33.7 % of the 2005 college graduates signed employment contracts that guarantee a work opportunity. It is also reported that only 37.4 % of them expressed satisfaction with their jobs (Institute for the 21st Century Education 2005). However, unemployment statistic figures form MOE seem not as high as that of Institute for 21st Century Education. The MOE asserts that the employment rate for college graduates has increased from year to year. MOE released data in their statistical yearbook that the unemployment rate fell from 80 % in 2001 to approximately (average less than) 66 % in 2007, then to 66 % in 2008, and to 68 % in 2009 (Sun 2011, p. 18).

Why is the unemployment rate of college graduates so high in China? There are multiple reasons.

First, since the expansion of 1998, the number of college graduates had increased to an unsustainable number by 2003. Although the Chinese economy has maintained a high rate of growth it could not keep up with the annual GER. It is simply impossible to generate enough jobs in the labor market to accommodate all graduates each year. As a result, both governments and institutions have come under pressure to deal with the shortage of jobs and the rising unemployment rate for college graduates.

Second, the quality of higher education is an issue. Currently, HEIs are under fire due to their failure in generating talent characterized by strong competitiveness and creativity. According to The Report of Mycos, 3.1 million students acquired a college degree in 2004 (double the number of graduates in the U.S.), but fewer than than 10 % could gain employment in the international job market. Annually, 600,000 new engineers are released to the market but only 16,000 of them have enough knowledge and language skills to serve international enterprises (Report of Mycos 2005, 2008).

Third, this perplexing imbalance between supply and demand does not necessarily translate into 'absolute over-surplus' in the higher education provision system. In fact, the phenomenon is that of 'relative over-surplus' of graduates, partly because of the disparity across the country. Every year, many graduates prefer to stay in the metropolitan areas to fight for jobs rather than go to some undeveloped regions where better job markets exist.

4.4.2 Major Solution

In dealing with this situation, numerous measures have been taken. First, quality control and education evaluation have become a priority at both the governmental and institutional levels. Higher Education Evaluation in China commenced in 1985 (Li 2014, pp. 215–223). Influenced by the global trends in educational evaluation and quality control, MOE began to conduct an evaluation in three forms: (a) accredited evaluation on newly established institutions after 1970s, (b) excellent evaluation on well- performed institutions and (c) random evaluation.

Given that the issue of quality had become a 'hot' topic and was of public concern since the 1999 expansion, educational evaluation and quality assurance again captured wide attention in academic communities, governmental agencies and the public. It was under these circumstances that MOE integrated the existing three evaluation forms to launch "*Scalar Evaluation of Undergraduate Teaching Quality*" in 2003, which goes through a 5 year cycle. Additionally, a document The *Action Plan of Education Innovation 2003–2007*, approved by the State Council, reaffirmed that the validity of this new national evaluation system for higher education quality needed to be ensured. By the end of 2008, the first evaluation cycle had been completed for 589 HEIs (Li 2014, pp. 215–223). Meanwhile, higher vocational institutions which already accounted for nearly half of HEIs had also participated in the assessment activities led by MOE and implemented by DOEs. By the end of 2008, about 600 higher vocational institutions had completed the evaluation. There are currently 1,215 higher vocational institutions in the system, most of which were founded in the last decade. The second cycle of *Evaluation of Undergraduate Education in Vocational Colleges* was transformed to an accredited eligibility evaluation, which graded institutions with either 'pass' or 'conditional pass' (Li 2014, pp. 215–223).

In order to improve the quality of higher education, many policies and initiatives have been formulated. For instance, the government agencies have made great efforts in terms of initiatives, including many national action plans or programs. First, governmental agencies at all levels adopted numerous measures necessary for recruiting promising and excellent talent crucial to improving the quality of higher education in both teaching and research. For example, MOE launched a project called 'The State Outstanding Young Scientists Foundation' in 2004, designed to invest one billion RMB (from 1998 to 2004) in faculty development, enhancing their qualifications and teaching capacity. This program would cover three-tier subprograms: a) at the top tier, the Project of "*Yangtze Rive*" *Scholars & Innovative Groups* was used to attract and recruit well-known scholars and academics worldwide; b) at the secondary tier, the Program for Supporting Excellent Personnel in the twenty-first Century was used to support 1,000 excellent faculty members annually in their professional advancement; c) at the bottom level, the *Program for Preparing Promising* (*Young*) *Faculty Members* was used for 10,000 young faculty members under the age of 35 annually in supporting further studies (Shi 2011, pp. 97–102). Another initiative that indicates the efforts made by the government is *The Program for Graduates Studying Abroad*. Jointly organized by MOE and Ministry of Finance (MOF) in January, 2007, this program is intended to enhance the quality of graduate education by annually selecting about 1,000 (to a total 5,000 in 5 years) enrolled graduate students (50 % of whom are doctoral students) from Project 985 universities and financially supporting their studies abroad. Most of those fellowship recipients will return and find posts in HEIs once they complete their oversea study for either 6 or 24 months. It is estimated that the number of fellowship recipients in the second round will increase to as many as 6,000 students in the following 5 years.

Second, in the matter of employment all useful measures should be valued and all policies and initiatives regarding graduate employment should be prioritized in both governmental and institutional strategic plans. Several efforts have been made: (a) significant efforts have been made by the Central government in order to maintain economic sustainable growth. For instance, the State Council introduced an invested scheme of 4 trillion RMB in 2007, with the intention of promoting economic development by stimulating domestic consumption and investment employment (b) efforts have been made to assist businesses, particularly small and medium firms, in order to aid them in overcoming difficulties during periods of economic downturn or financial crisis. The goal is promote sustainable development of these enterprises, and to guarantee the hiring of a a large number of college graduates, (c) graduates have been encouraged to find posts in regions where they are needed, changing their outdated ideas and attitudes through education. More to the point, governments at all levels should reduce the gap between the developed regions and undeveloped ones. Only then will more graduates be motivated to find posts in those regions (d) at the institutional level, it is common to attach importance to employment issues. Currently, almost all institutions in China have established centers under the leadership of vice presidents (in charge of student affairs). Major tasks for these centers are to deal with student admissions and graduate affairs. The employment guidance from the centers is expected to help students find posts more easily. The centers also offer some courses on student career development and design as well as releasing employment information and organizing job fairs to create more on-campus interview opportunities for graduates.

Third, with regard to the equity issues, *the Partner Assistance Program* should be noted because the program is intended to shorten the gap and reduce disparity by balancing development in HEIs located in both the eastern and the western regions across the country. The Central government launched a strategic program called "*Western Development Scheme*" in 2000. On one hand, substantial public expenditures from the Central government were invested in the western region, while on the other hand, all the middle and larger cities in the eastern and central China were encouraged to assist counterparts in the western regions. In order to respond to the call, MOE released a policy called *The Plan for Partner Assistance to HEIs in Western Regions* on June 13th, 2001. Meanwhile, MOE encouraged 13 HEIs in the East to form alliances with 13 counterparts in the West. Since then, a new partnership has developed among the institutions in the East and the West. The assistance-providing universities in the East offer all-around support and cooperation to their counterparts in the West. All 13 assistance-providing universities were key universities affiliated with the Ministry of Education (Cen and Li 2010, pp. 300–341). Among the 13 pairs of partnerships, the partnerships between Peking University and Shihezi University and between Tsinghua University and Qinghai University are viewed as models of success (Liu et al. 2014, pp. 224–422).

4.5 Future Looks: 2020 Vision and Action Plan

In 2010, MOE released an important document called *the National Outline for Medium and Long Term Educational Reform and Development* (*2010–2020*)—briefly called "2020 Vision". *2020 Vision* is a comprehensive strategic plan for educational reform and development by the Year 2020. 2020 Vision provides insight into some possible changes in next decade.

First, in regard to developmental goals, an annual increase in enrollment in higher education is expected until 2020. The number of students in higher education is estimated to increase to 33.5 million by 2015 and 35.5 million by 2020. Meanwhile, GER is expected to reach 36 % and 40 % respectively. In order to meet these goals, MOE will promote development of HEIs at provincial and local levels by: (a) subsidizing and promoting the development of local universities and higher vocational colleges; (b) encouraging development of the private sector; (c) revitalizing higher education in the Inland and Western regions through additional programs promoting the alliance of HEIs between the eastern and western regions.

Second, more policies and initiatives will be implemented to improve the quality of higher education. For instance, the National Evaluation Center, which is affiliated to MOE, is scheduled to launch a second round of assessment for Chinese HEIs. A new framework of index system is under formulation. The revised index system will be drastically different from the original one used in the first round. As noted by Li, Zhihong, deputy director of the Center, five types of evaluation will be conducted: (a) Self-evaluation, which enables each HEI to play a principal role in quality assurance and to form a self-developmental, self-regulated, and enhancement-oriented mechanism. (b) Institution-based evaluation of the quality of undergraduate teaching, which includes both eligibility evaluation and audit modes. (c) Program-based accreditation and evaluation. (d) Global-peer-review-based evaluation and accreditation to encourage first-class universities to undergo program-based evaluation and accreditation conducted by high-level overseas peer reviewers. (e) the development of the National Database of HEIs by monitoring and collecting regular teaching quality data (Li 2014, pp. 215–223). MOE is also scheduled to adopt all steps necessary to improve the quality of higher education and teaching, such as: (a) building a database on college instruction; (b) developing an analyzing and reporting system; (c) building instructional quality assurance systems etc. In 2011, MOE developed policies and initiatives to enhance international competitiveness and the academic impact of HEIs through strengthening collaborative innovation and cooperation among the institutions or between universities and other social agencies.

Third, China will continue to strengthen WCU building in order to meet the needs of building a National Innovation System (NIS). In June 2006, the State Council released an important document—*National Medium and-Long Term Outline for S&T Development*: *2006–2020* (Vision 2020 for S&T Development), proclaiming that China will become a country with an NIS in the next decade and a half. In the vision, universities – particularly research universities – are committed to new tasks which require them to play multiple roles in building the NIS. Partly because of HEIs, research universities in particular have three traditional and

fundamental functions: educating talent by teaching, producing knowledge by research, and serving social development by knowledge–diffusion.

Fourth, China will make efforts to attract global talent in the global market of higher education. Since 2008, Chinese governments have carried out several policies and initiatives, such as The Recruitment Program of Global Experts, Program on Recruiting Global Experts and Talent for Disciplinary Innovation of HEIs, and so forth which are expected to promote international cooperation and exchanges through sending more talent to study abroad and guarantee them work once they return to China (Shi and Ma 2014, pp. 167–187).

4.6 Conclusion

The development of mass higher education in China over the last two decades has many complex and multidimensional implications. It is clear that the acclaims vs. criticism retrospect vs. prospect regarding the massification signals the end of an era of simply quantitative pursuit and the beginning of a period with claims for both quantity and quality. For a start, China has completed its mission to achieve the mass higher education stage in less than decade. China has the largest system worldwide in terms of enrolment – for this, China has most definitely earned boasting rights. However, Chinese higher education has also exposed some severe problems that need to be addressed in the post-massification stage. Chinese higher education still lags far behind that of many developed nations. We need to acknowledge that the comparative advantage of scale in terms of enrolment does not always make sense. Also importantly, the qualitative issue of higher education is being questioned. Some say that there are negative consequences from the rapid expansion and the pursuit of quantity over quality. Regardless of opinion, it seems it is time for Chinese higher education to slow down, and reflect on what has been achieved. This does not mean an attitude of negativism but one of constructive criticism. We now need reflection on our concerns about the quality issue. Ultimately, we believe that Chinese higher education is facing an unprecedented opportunity as well as a challenge in a knowledge-based global economy, at a time of internationalization of higher education. Placing a priority on quality over quantity will lead to faster and more successful progress in the future. We believe if China maintains its social and economic stability in the coming years, the higher education system will become not only one of the largest, but also the strongest in the world. A slow and steady progress will not only benefit the nation, but its people as well.

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Chapter 5
Higher Education Development in Taiwan

Chuing Prudence Chou

5.1 The Impact of Global Neo-liberal Ideology on Higher Education

The adoption of neoliberal, free-market economic policies in the 1980s and the subsequent deregulation of education have had an impact on many systems in Europe, North and South America, and Asia (including New Zealand and Australia) (Olssen 2002). Many countries in these regions have restructured their systems of public education in an attempt to give HEIs relative autonomy and enable them to assume responsibility as independent institutions. As a result of deregulation and liberalization, individual institutions have become more competitive and accountable through the creation of an overall market mechanism within the education system (Giroux 2002). The issuance of educational loans by the International Monetary Fund (IMF) and the World Bank (WB) supports these trends. In general, the IMF and WB serve as a support mechanism for neoliberalism in Latin America, Africa, and Eastern Europe through the promotion of market mechanisms that affect increases in private investment in education and accountability in higher education institutions (Chou 2003). As governments pursue this ideology, systems of higher education are faced with a series of transformations, shifting from more specific norms of state control to those of state supervision. In brief, policy makers are convinced that HEIs' adoption of market-oriented mechanisms will encourage universities to share the financial burden, especially in light of expanding student enrollments (Chou 2008a, 2012).

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This stance also facilitates the idea that cost-effectiveness among HEIs will eventually increase efficiency and improve educational quality. It is assumed that such a positive impact will enhance institutional academic autonomy, as well as provide more choices for students and parents as empowered consumers of higher education. Along with the global trend of higher education expansion, the establishment of market economies has had an impact on Asian HEIs, especially in China, Japan, Korea, and Taiwan, where higher education has experienced tremendous growth in the last decade (Altbach 2003). The case of Taiwan serves as an excellent example. Neoliberal principles have influenced higher education policy since the late 1980s when the country was in the process of political and economic transition.

The concept of globalization and localization represents not only one of the driving policy agendas in Taiwan, but also the origin of higher education reforms over the last two decades. It is also worth noting that Taiwan's higher education system has encountered similar challenges as those in the neighboring countries. Many of them have experienced great transformation in higher education owing to this globalization/localization divergence coupled with the impact of neo-liberal principles worldwide since the 1990s (Law 2004).

5.2 Taiwan's Country Profile

Taiwan is an island located on two straits in East Asia, the Taiwan Strait off the southeastern coast of China, and the Luzon strait, which connects the South China Sea with the Pacific Ocean. The size of Taiwan is about 35,980 km^2 (13,892 mile^2), a size smaller than Switzerland.[1] Two-thirds of Taiwan is mountainous, with some mountains taller than 3,000 m. The western part of the island is made up of hills that are reduced into plains near the coastal line. Groups of small islands surround the island that predictably receive Taiwanese territory clam[2]. The urbanization rate is around 70 % (Government Information Office 2010). Rural areas are considerably less developed than the urban regions, where the people are generally assumed to be more conservative than their urban counterparts (Yi et al. 2008).

According to Ministry of the Interior, Taiwanese population in 2012 was 23,268,087 which make Taiwan the 50th largest country in terms of population, and the 16th most densely populated country in the world.[3] The current population growth rate is around 0.23 % (Government Information Office 2010). The population is split into four general groups: the Fukienese (people who immigrated to Taiwan from the Fukien province in China before 1949), the Hakka (people who immigrated from Guangdong province in China before 1949), the Mainlanders (people who immigrated

[1] http://www.nationsencyclopedia.com/economies/Asia-and-the-Pacific/Taiwan.html#ixzz2r33HHWdV

[2] http://eng.taiwan.net.tw/m1.aspx?sNo=0002004

[3] http://worldpopulationreview.com/countries/taiwan-population

from China after 1949), and the indigenous Taiwanese (who include the 14 officially recognized indigenous groups), who make up 2 % of the population (Government Information Office 2010).

There are also new immigrants who have in the last decade become part of the population through marriage, and each group has its own dialect and cultural perspectives. It is estimated that one in eight primary students are offspring of foreign spouses which adds to the multiculturalism of Taiwan (Yang et al. 2012).

Since the 1990s, Taiwan has enjoyed a dynamic capitalist economy with a gradual decrease in government control of investment and foreign trade. Taiwan had a nominal gross domestic product (GDP) of US$16,442 per capita, which translated into a GDP at Purchasing Power Parity (PPP) of US$31,834 per capita in 2009 (Government Information Office 2010). That same year, the GDP had a negative growth of 1.9 %, and the GDP per capita at PPP ranked forty-third in the world (Government Information Office 2010). Inflation for 2009 was −0.9 %, and the unemployment rate as of May 2010 stood at 5.22 % (Sung 2010).

While Taiwan has been known internationally as Formosa for centuries, it is officially recognized as the Republic of China, in spite of Taiwan's debated but independent political sovereignty, yet still without full support of an independent nation in the Mainland China. Taiwan is renowned for its breathtaking natural scenery, and its impressive economic development since the 1970s.

After 1949s Chinese civil war, Taiwan became a shelter for the Mainland Chinese who withdrew from communist occupation. Nearly two million Chinese civilians, government officials and military troops relocated from Mainland China to Taiwan. Over the next five decades (1949–2000), the ruling authorities gradually democratized and incorporated the local Taiwanese within the governing structure. Throughout the period, the island prospered and became one of East Asia's economic "Four Little Tigers" and democratic societies (Morris 1996). Between 2000 and 2008, Taiwan underwent two consecutive peaceful transfers of government power.

As a result of globalization and access to the World Trade Organization (WTO) in 2002, the education system in Taiwan, similar to systems in East Asia, has undergone an enormous transformation. Higher education in particular has been influenced by the trends of globalization, localization, development of information communications technology, as well as a series of political, social, economic, and managerial changes coupled with the advancement of cross-strait relationship with China. These transitions have collectively contributed to multifaceted influences on higher education in Taiwan (Chou and Ching 2012).

5.3 Historical Development of Higher Education in Taiwan

The development of higher education in Taiwan over the last century represents a transition from the colonial system to the Chinese system. There has been a move from a highly centralized administration to government-regulated and

market-driven management since 1987, from restricted access for the elite to a more universal orientation, and from a single-facet standard to a more diverse operation. The impact of foreign influences and local heritage on the current system and the uniqueness of a system that combines Japanese, American, Chinese, and local features indicates the options facing Taiwan in its pursuit of localization and globalization in higher education (MOE 2006).

After World War II, with the restoration of Taiwan, China gained sovereignty over the island's territory and culture. Many aspects of higher education, such as the academic structure, administrative organization, curriculum and instruction, degree and graduation requirements were reorganized around the model of Chinese universities imported from the mainland. During the 1950s–1960s, foreign aid and investment in Taiwan helped to establish an export-oriented economy and labor-intensive industry on the island. Higher education was greatly impacted and aligned with this change in order to prepare manpower to export labor-intensive products. After the 1960s, Taiwan's higher education system (particularly junior colleges) developed rapidly, due to the growth of secondary schools and the expansion of labor-intensive industries. As a result, the number of HEIs increased 15-times (from 7 in 1950 to 105 in 1986), while student enrollment increased 52-times (from 6,665 in 1950 to 345,736 in 1986 (MOE 2006)).

Until the 1980s, Taiwan focused on becoming a society that produced capital and technology-intensive goods for export and shifted to the service industry. Taiwan was transformed from a recipient of foreign aid to one that attracted foreign investment. And the country's system of higher education had also reached a stage where many HEIs started to recruit international students instead of sending their own students abroad.

The government regulated higher education so that it could adapt to the new era. In the 1970s, applications to establish private schools were terminated. Since then, technological, vocational education and general higher education have coexisted with each other, later developing into two branches of higher education in Taiwan.

There was a period when the establishment of private HEIs was strictly controlled and banned before the mid-1980s. However, as Taiwan's economy progressed and the political process moved toward democratization in the late 1980s, universities began to promote the pursuit of academic freedom and autonomy that was inspired by their American counterparts.

5.4 Higher Education System in Taiwan

Taiwan's higher education institutes (HEIs) are divided into two tracks: one for academic orientation, and the other for occupational training. Students choose their tracks at the age of 15 years based on their choice of senior high schools. Most HEIs are comprised of 4-year colleges, universities, institutes of technology, and 2–5-year junior colleges (MOE 2012; Lee 2010).

Programs at HEIs usually last 4 years except for architecture, law, and dental and medical programs which take longer. Unlike American professional schools which start after college graduation, law and medical schools commence in the first year of university in Taiwan. More and more universities offer non-declared programs based on general foundation/education for the first 2 years at college with the purpose of broadening student learning scope and interdisciplinary capacity.

As an export-oriented economy, Taiwan is renowned for its junior colleges, which are vocation oriented, focusing on practical business, technological training, and the applied sciences. However, many colleges have been upgraded to institutes and universities of technology as higher education has expanded over the last 15 years, although a few, especially nursing schools, still offer junior college programs.

Among these vocational training institutes, a traditional 5-year junior college (including former teacher's college) admits junior high school graduates for specialized or semiprofessional training. Another 2-year junior college accepts graduates of senior high schools and senior vocational schools to major in programs such as foreign language, hotel management, tourism, business administration, computer science, nursing, agriculture, forestry, fishery, home economics, architecture, civil engineering, and so on. In addition, students are encouraged to seek relevant work experience in order to link their study to the practical job market.

Channels for admission to colleges or universities are based on test scores from entrance examinations, and selection is based on individual applications and recommendations by high schools. The main goal of high school students is to achieve high scores on university entrance examinations in order to attend better universities (Pan and Yu 1999; Yang 2000). However, students who have completed junior college programs may transfer to a 4-year college or university as freshmen or second-year students after passing the required examinations.

As stated earlier, higher education comprises two tracks of institutes, and there are at least three ways to be admitted to universities and colleges. The first two channels are designed for academic HIEs combining a recommendation and screening process. For example, third-year senior high school students may take the General Scholastic Ability Test (GSAT) in the winter, which assesses their high-school level competence in Chinese, English, mathematics, and the natural and social sciences. Then, students, with their own portfolio of academic and social achievement, can apply to their priority targeted institution(s) through their competitive school recommendations. The second way is by a college entrance examination and placement. Every July, students who do not succeed in the GSAT can sit for a University Department Required Test (UDRT), which consists of three to five subjects from high school, and they will be assigned to a college based on their test scores.

The third way to gain entrance to the vocational track, namely a college of technology, is to take another entrance exam for a vocational institution in May, which consists of more than half of the senior high graduates. In order to improve the traditional written entrance examination with more diversified entrance schemes, the government set up a Testing Center for Technological and Vocational Education

(TCTE) to take charge of the recruitment policy and advancement for technological colleges and universities. Since the 2001 academic year, TCTE, a specialized institution of testing, has taken on a broad range of activities and tasks related to the development of and research on the Technological and Vocational Education (TVE) joint college entrance examination. In the past decade, more than 150,000 examinees took the TVE entrance exam for the vocational track, outnumbering their counterparts for the GSAT (for academic orientation). Nevertheless, the GSAT has always attracted more news coverage and social attention than academic degrees in Taiwan (Chou 2008b).

Higher education programs in Taiwan are usually categorized into the following divisions: the College of Humanities and Sciences, the College of Social Sciences, the College of Medical Sciences, the College of Engineering, and the College of Professional Schools. Most universities and colleges are supervised by the MOE, except for the military academy and the police academy. With respect to curriculum, and taking National Taiwan University (NTU) as an example, there are three streams of courses, including general/liberal education, departmental required courses, and courses for special professions. General education covers a wide range of required courses such as Chinese literature, foreign languages, physical education, and service learning, while liberal education consists of eight areas: literature and arts, historical thinking, world civilization, philosophy and moral reasoning, civic awareness and social analysis, quantitative analysis and mathematics, material science, and life science. These courses are designed to encourage a diverse dialogue and integration among different academic fields and ways of thinking, and especially to cultivate students' cultural literacy as the country begins to embrace globalization and localization in a lifelong learning society.

In addition, courses required by department/graduate institutions consist of half of the graduation credits, which normally range from 128 to 148 credits (one credit equals 1 h of class per week, and there are 18 weeks per semester). Students are free to choose elective courses and credits from a campus or through the intercampus system (NTU 2008a). One exception is that students who have passed the pre-requisite test of the teacher education program are then qualified to take courses in the teacher education program, and will become teacher candidates upon completion (NTU 2008b).

5.5 Higher Education Reform in Taiwan After 1990s

The following section discusses policies and laws in response to issues of globalization since the late 1980s. Governments in Taiwan have responded to the worldwide trend of globalization and neo-liberalism along with the processes of political democratization and economic transformation over the last two decades (Chou 2008a). Higher education in Taiwan underwent a dramatic transformation after 1987, with the end of the authoritarian regime that had lasted four decades, and the beginning of increased

interactions between China and Taiwan. It was a time when many advocates demanded greater social change through abolishing media censorship, granting more freedom to the banking establishment, and producing more competent college students to accommodate Taiwan's emerging high technology industry. The traditional school system also came under fire for being unable to cope with the new social demands in this transitional period. Successive governments, priding themselves on being more responsive to local needs and global challenges than the earlier regime, introduced market-oriented reforms as a way of relieving government budgetary pressures and giving HEIs more autonomy. Consequently, the Educational Reform Committee (1994–1996), led by a Nobel Laureate, was established to produce five reform papers which in turn served as guidelines for launching a nationwide reform movement in the 1990s (Chou 2003; MOE 2010a).

At the same time, the passing of the new revised University Law (1994) and the shift in responsibility for administrative funding from the government to public universities assisted in introducing market dynamics to Taiwan (MOE 2010b). The University Law further reduced the authority of the Ministry of Education over HEIs in president appointment, tuition fee charging, course requirements, and student recruitment. As a result, university campus operations have become more flexible (Tsai and Shavit 2003).

5.6 Higher Education Expansion in Taiwan and Related Issues

As successive governments have pursued a neoliberal market ideology due to political liberalism and economic deregulation, higher education in Taiwan has expanded at a much faster pace than expected. There are 148 universities and colleges in Taiwan as of 2012 compared to 51 in 1993, nearly three times of the increase. In 1998, there were only 84 HEIs comprising 410,000 students and 841 graduate institutes, while 142 of 830,000 with 2,215 graduate institutes in 2003 (Chen and Wu 2004).

Alongside these changes, there has been a significant increase in master and doctoral education. For example, in the period 1996 to 2006, the number of doctoral students increased 2.44 times (Yang et al. 2012). Prior to the academic year 2012–2013, undergraduates comprised less than three-quarters of the population (934,000), about 15 % were master's students (183,000), and the remaining were doctoral students (33,000). The total growth rate was 1.75 times within a decade (MOE 2013). Nowadays, almost one out of 3.7 undergraduates ends up attending graduate school which leads to nearly 60,000 students graduating from master's programs and 4,000 from doctoral programs (MOE 2013).

Junior colleges have been restructured as universities or technological colleges rather than shut down. The number of students enrolled in universities has increased 2.17 times, twice as much the student population that has been admitted to universities in the last decade (Chen 2010).

The expansion of higher education not only provides more educational opportunities to the general public but generates a series of governance changes for efficiency, increased higher education admission, oversupply of university graduates, social distance between public and private universities, institution and disciplinary stratification, and university upcoming closure.

5.6.1 Governance Change for Efficiency

The expansion of higher education coupled with neo-liberalism's influence has led to some mixed results. Policy makers as well as law makers are convinced that adopting market-oriented mechanisms will encourage universities to share the financial burden of higher education, especially in light of increased student enrollment. This outlook also seeks cost-effective behavior among HEIs, increased efficiency, and eventually better educational quality.

The Government's previous role of initiating rules and regulations for HEIs has now shifted towards specifying funding standards for universities and colleges that then compete based on accountability and performance. Market-oriented higher education is becoming primarily focused on structures and actions tailored to 'competition' and 'deregulation.' In concrete terms, this includes taking steps such as employing performance-based funding schemes, encouraging greater competition for resources, supporting fundraising efforts by universities, establishing more private institutions, deploying external evaluation, and raising tuition fees. Consequently, universities have shifted from traditional norms of state control to those of state supervision (Song 2005).

5.6.2 Increased Higher Education Admission

With the unprecedented growth in the number of private universities and technological and vocational institutions that has occurred since 1994, higher education is becoming more accessible to Taiwan's younger generations aged between 18 and 22 years. The total number of citizens holding a diploma of higher education was 6.68 million in 2008, an increase of 4.24 % from the previous year (Government Information Office 2010). Admission rates increased from 49.24 % in 1996 to 96.28 % in 2006 (Chen 2010).

In addition, in 2012 Taiwan had almost the highest university admission rate in Asia, with 69.9 out of 100 students aged 18 being admitted to university, which was four times higher than the admission rate in Hong Kong and China (MOE 2013).

As a result of the expanded number of universities, more students can be admitted to institutions of higher education regardless of their social background, gender, ethnicity, and age. The once elite-oriented HEIs are accessible and responsive to

Taiwanese society (Huang and Chen 2008). The downside of this increased accessibility has been to put greater pressures on universities with budget cuts and resource constraints as the government moves toward a neoliberal ideology. HEIs are now focused on competing for students and resources by generating marketing based on their research 'products' and programs (Chou 2010). The quality of university teaching is a matter for concern as the declining birthrate forces private universities to compete for student recruits.

Along with this, admission to the university appears to have lost, to some extent, a certain prestige due to the emphasis placed on admissions over selectivity. Currently, admission criteria have been modified to be more suited to students with less academic preparation and motivation because of the recruitment demand. In other words, the drastic expansion of HEIs has threatened the quality of higher education over the last 10 years.

5.6.3 Oversupply of University Graduates

Another issue is the increasing numbers of students who have difficulties in finding a job in their university discipline. A survey indicated that only a quarter of university graduates in the last 5 years have found a job related to their college major, among which 52.38 % were arts majors, 50 % mass communication majors, 48.21 % medical science and public health majors, 46.43 % natural sciences majors, and 46.15 % architecture and urban design majors (Cheng 2010). The unemployment rate of university graduates increased from 2.7 % in 1993 to 5.8 % in 2009, which was much higher than any other educational levels. This situation has placed serious financial burdens on families. The statement, "higher in terms of university degree, higher in terms of unemployment rates" has been disseminated among postsecondary institutions as employment opportunities for college students have decreased (Chou 2008b).

In 2007, the total number of HEIs was 163, which constituted 1.30 million students, with a 90 % admission rate. Each year, approximately 300,000 students graduate from universities, among which 130,000 become unemployed. On the other hand, among 91,490 research personnel, 87 % come from universities and academic institutions rather than being employed in industry or the corporate sphere, which are in need of research and development (R & D) staff. The application of academic research that originates in institutions of higher education comes up short in terms of better serving the needs of companies and industry in Taiwan. Most high technology companies have fewer than 100,000 employees in semiconductor manufacturing, image display, digital life, biotechnology, communications, and the information service industry, but universities will only be able to supply 2,000 in those six key industries in Taiwan over the next 6 years. A possible solution to this human resource shortage would be to establish a more aggressive higher education policy and strategy that would strengthen the collaboration between the university and the corporate world (Chou and Ching 2012).

In addition, there is the issue of the increasing numbers of the 'working' population among university graduates in Taiwan. The unemployment rate for these individuals was 4.67 % in 2009. Those who are part of the working population phenomenon spent at least 27 weeks as part of the labor force during the year, although their incomes were lower than incomes at the official poverty level in the United States in the same year. In Taiwan in 2010, the average monthly income of local workers was NT$42,141 (US$1,451), which was the average income in 1998, indicating no improvement in earning power during that period (Wang 2010).

5.6.4 Social Distance Between Public and Private Universities

The ratio of public to private institutions is 1:1.94 (54:105) in Taiwan (MOE 2006). Undergraduate enrollment in public universities and colleges increased 2.67 times, while 5.17 times in private sectors in the last two decades. In this same period the proportion of undergraduates enrolled in private institutions, rose from 62.5 to 73.7 %, an increasing discrepancy in expansion between public and private HEIs. This number indicates that the expansion of higher education in Taiwan can be illustrated as increasing private institutions. However, public higher education institutions are viewed as being more prestigious than private ones. Specifically, the expansion was restructured mainly by upgrading existing private ones (Tsai and Shavit 2003).

Among the universities in Taiwan, tuition of private HEIs is twice as that of their peers at public institutions (Lin 2004). Research has shown that students admitted to public HEIs tend to come from upper- and middle-class family backgrounds, whereas students from more disadvantaged backgrounds tend to study at private universities. According to a nation-wide survey (Chou 2008a), the average cost (including tuition fees, room and board for 4 years) of attending a public university is around NT$1 million (US$33,000), and NT$1.2 million (US$40,000) for private institutions, of which more than 60 % comes from family support.

In a research project entitled "Who Are NTU's students?" Luoh (2002) pointed out that 82 % of NTU students graduated from the 20 top national high schools between 1997 and 2000. Of these, 57.6 % grew up in the Taipei metropolitan area, and had an admission rate 16 times higher than those students from the most remote counties on the east coast. In terms of university majors, 42 % of students in the law schools come from families in which 42 % of fathers (17 % higher than average students) and 27 % of mothers (7 % higher) have a university degree. These results suggest that there is a high correlation between admission to a top national university and family background, which includes parent education, family income, residence, and high schools. Nevertheless, students from public universities receive public subsidies totaling as much as NT$800,000 (US$27,000) over 4 years compared with their counterparts in private institutions who pay twice as much of university tuition (Luoh 2002).

Taiwan adopted a relatively lower tuition fee policy in the 1950s compared with its international competitors, thanks to the belief that education should fulfill a mission as the main avenue for social mobility. However, the policy of providing low university tuition fees has been challenged since the 1960s due to its practice of supporting privileged groups and government employees whose offspring are more likely to be accepted into the highly subsidized public universities (Huang 1978). Lai and other researchers have justified this doubt and called for a revision of the current discrepancy in tuition between public and private institutions, in order to rectify the issue of reproducing the lines of social class that higher education has created (Lai 2010).

The expansion of higher education in Taiwan can, therefore, be regarded as a restructuring of private institutions accommodated mainly by creating new institutions and by upgrading existing ones, although other strategies, such as splitting, merging, and increasing the size of the existing institutions, were also used in historical sequences (Tsai 2010). However, public institutions remain more prestigious than private ones.

5.6.5 Institutional and Disciplinary Stratification

Higher education in Taiwan is becoming more and more stratified due to the unfair allocation of educational funding, as mentioned above. For example, the overall data on university expenditure per student showed a significant increase between 1999 and 2007, with a decline in average spending declining after that. In this period, most public universities benefited from the increase, especially HEIs such as NTU and some other top universities who received the bulk of their funding from the MOE and donations from the private sector. At the same time, most second-tier public and private HEIs encountered more and more funding shortages. An increasing trend of stratification among HEIs has led to polarization in terms of educational resources and institutional prestige.

The gap has become wider not only among HEIs but also between disciplines. Data on average spending per student in top public universities reveals that science and technology majors receive twice as much government funding as their peers in the humanities and social sciences, which also accounts for four times more than that for students at private institutions. The gap between institutions and the disciplines continues to widen and accelerate as government funding allocation is increasingly based on accountability and competition. The saying that "the rich get richer, and the poor become poorer" is not uncommon in describing the stratification in Taiwan's system of higher education (Chou and Ching 2012).

Private universities that lack outstanding qualities and performance not only cannot obtain special grants from the government, they also encounter increasing student recruitment shortages. In 2009, university enrollment overall (and including some regular national universities) faced a shortage of a total of 7,000 students. It is forecast that a number of private universities will be forced to close down in 2016

due to the low birthrate in Taiwan (MOE 2013). The whole country will also face the immediate impact of a series of university closures and staff/faculty layoffs in academia in the near future if policies such as the reintegration and merger of existing universities, the recruitment of more foreign students, and the relaxing of restrictions on students from mainland China, do not come into effect. A possible solution may be for the government to facilitate private universities in identifying and developing their unique and indispensable attributes.

5.6.6 University Upcoming Closure

In recent years, Taiwan's society has become more multi-cultural and one with a low birthrate and an aging population. The birthrate has dropped from 410,000 newborn babies in 1981, to 270,000 in 1998, to 167,000 in 2010, which is the lowest level in the last 50 years (Chen 2010). Many private HEIs (especially in the remote areas) have found themselves confronted with a serious shortage of student recruits. It is expected that universities will face a series of institutional closures or mergers after 2016 (one-third decline rate), when the declining population is expected to hit 18 (Sung 2010; Tsai 2010).

To offset the declining birth rate and increase the numbers of international students, the Ministry of Education set up awards and programs for HEIs to promote internationalization which encourages foreign students, promotes international exchange, and upgrades university international competitiveness. In 2007, the total number of international students (including degree-level students, exchange students, and students studying languages) reached 17,742, which is an increase of 3,263, compared to the total of 14,479 in 2006 (Ko 2008).

On the other hand, the legislature approved a bill in the Fall of 2010 that admitted China's high school graduates and the top university graduates to Taiwan's HEIs. This policy went through a series of long debates over whether Chinese students should be granted the right to study in Taiwan or not. But in order to ease the shortage of university students and promote communication among the younger generations, the bill was passed and established an annual quota for Chinese students who can be admitted to the island from 2011. The figure will account for less than 1 % of the total university student population in Taiwan (approximately 2,000) (Chou and Ching 2012).

It is estimated that almost two-thirds of HEIs in Taiwan are at the risk of closure and mergers in the coming few years (http://vision.udn.com/storypage.jsp?f_ART_ID=1053).

5.7 Conclusion

The inevitable growth of higher education throughout the world has become topic of discussion in the last two decades. This global trend toward establishing market economies has affected many HEIs in Asia and other countries. Taiwan is a good

example that has adopted neoliberal principles in its higher education policy since the late 1980s. In examining Taiwan's efforts to globalize its higher educational system while preserving its cultural heritage and local identity, the chapter discusses issues of neo-liberalism and university expansion since the late 1980s. These have become attempts to respond to the worldwide trend of globalization along with the processes of political democratization and economic transformation over the last two decades. The lifting of martial law in 1987 ending a four-decade authoritarian regime, and the encounter of more Taiwan cross-strait interactions between China and Taiwan has enabled higher education to enter a new era of transformation.

One of the changes was the significant increase in the number of HEIs and student enrollment. Nevertheless, this educational expansion has had mixed results which may provide valuable lessons to those concerned. With the global influence of neo-liberalism, which focuses on privatization and privileges in a market economy, Taiwan HEIs are generally considered to be fee-charging public institutions due to the increased public funding for private universities as a result of the expansion of higher education. On the other hand, starting in the mid-1990s, universities of technology were established through the upgrading or reorganization of institutions, which contributed to the great expansion of both the number of HEIs and the student population. Consequently, the expansion of higher education not only opened up greater educational opportunities for high school graduates, but also created unexpected results, including the changing government role over HIEs, striving for efficiency, increasing higher education entrance, creating more university graduates than needed, the widening social gap between public and private institutes, enhancing stratification among universities, and resulting in university closure and merging challenges.

In the long run, the unexpected declining birth rate has limited the potential development of higher education in Taiwan. Unless a greater international market for student recruitment can be reached in the foreseeable future, the closure and merger of HEIs in Taiwan will be inevitable.

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Chapter 6
Higher Education in Malaysia: National Strategies and Innovative Practices

Molly N.N. Lee

6.1 Introduction

A global trend in higher education is its rapid quantitative expansion. It was reported in the 2009 UNESCO World Conference on Higher Education that there were 150.6 million tertiary students globally in 2007 which is an 53 % increase from 2000 (Altbach et al. 2009). Globally, the percentage of the age cohort enrolled in tertiary education has grown from 19 % in 2000 to 26 % in 2007, with the most dramatic gains in the middle income and upper income countries. East Asia and the Pacific region increased from 15 % in 2000 to 26 % in 2007. In this region, the upper income countries such as Japan, South Korea and Australia have achieved universal higher education with gross enrolment ratios over 50 % while the middle income countries such as Malaysia, Thailand, Philippines and Singapore have achieved mass higher education with gross enrolment ratios ranging from 20 to 50 % (Lee 2013). As for the low income countries such as Indonesia, Vietnam and Cambodia, the tertiary gross enrolment ratios are below 20 % with education remaining at the elite stage as defined by Trow (2006).

Much has been written to explain this global phenomenon of massification of higher education. A common explanation as to why national governments invest heavily in higher education is the strong belief that higher education plays an important role in national development. Higher education is often viewed as contributing to the economic growth, political development, and socio-cultural transformation of a country (Lee and Wong 2003). The contribution of universities to economic

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growth has been identified along three dimensions: (i) producing and accumulating human capital, (ii) generating, disseminating and applying knowledge, and (iii) innovating and inventing new services and technology. Similarly, universities can contribute to political development by playing three main functions: (i) political socialization, (ii) selecting and training political elites, and (iii) promoting national identity and unity. As for socio-cultural transformation, the massification of higher education is usually accompanied by the widening access to include the disadvantaged groups in society, thus promoting social mobility and social equality. At the same time, universities are often required to play the dual role of preserving the cultural heritage on the one hand and promoting cultural change on the other.

The dynamics of higher education development in East Asia has been further examined by Hawkins et al. (2013) who posited four hypotheses to explain the particular pathways that higher education has taken in the Asia Pacific region, particularly with respect to its social, economic, and cultural dimensions. First, the "Western Dominance" hypothesis argues that basically the university is a Western creation and that Asian higher education has followed the Western academic models and institutions. When Asian universities seek to expand and transform themselves, they tend to emulate top Western world class universities. Second, the Asian Values Higher Education Transformation hypothesis maintains that Asian countries develop their own higher educational systems with indigenous characteristics, such as the Confucian, Islamic and Buddhist educational traditions and values that are found in many of the countries in the region. Third, the Economic Determinism hypothesis postulates that if any Asian countries were to develop economically then widespread effective tertiary education is a necessary precondition for such development. Fourth, the Global Inclusion hypothesis theorizes that in the era of globalization, higher educational development and reforms in any particular Asian country are very much influenced by global trends and practices.

The purpose of this chapter is to examine the massification of higher education in Malaysia, highlighting the global influences, national strategies and institutional efforts in the development of Malaysian higher education. The analysis includes the restructuring process, the privatization of higher education, the corporatization of public universities with specific reference to the *National Higher Education Strategic Plan 2020* (MoHE 2007). It addresses the various challenges met in terms of widening access and increasing equity, financing higher education, as well as improving the quality and efficiency of the delivery system. The chapter features some of the innovative practices in Malaysia such as the different types of higher education institutions, transnational education programmes, and public-private partnerships. The main argument is that the massification of higher education in Malaysia is very much influenced by global trends as well as the internal dynamics of social, economic and political forces. Furthermore, higher education is viewed both as a public good and a private service resulting in an innovative hybrid model of financing higher education in Malaysia.

6.2 Rapid Expansion of Higher Education

The higher education sector in Malaysia consists of three sub-sectors, namely, degree granting institutions, sub-degree granting institutions and skills development centres. Each sector is further divided into public and private. Institutions with university and university college status have the authority to award qualifications up to postgraduate level, while institutions with college status have authority to award qualifications up to advanced diploma only. In addition, polytechnics are established to offer technical and vocational diplomas and advanced diplomas, while community colleges are established to offer technical and vocational certification (NHERI 2013).

The expansion of Malaysian universities can be divided into three distinctive waves (Lee 2004). The first wave featured the struggle for the first independent university to be established in the Federation of Malaya during the British colonial period. The University of Malaya was established in 1949 in Singapore and in 1959 the university started an autonomous division in Kuala Lumpur which became a separate entity in 1962. The second wave occurred in the 1970s and 1980s when there was an urgent need to establish more public universities to rectify the existing imbalances in educational opportunities among the different ethnic groups. The third wave took place in the 1990s which saw the establishment of private universities aimed at meeting excess demand and to seek profits in the commercialization of higher education.

The latest statistics show that there are a total of 733 public and private higher education institutions (HEIs) in Malaysia. Of this, 221 are public HEIs and 512 are private. The public HEIs consist of 21 universities, 130 colleges including MARA[1] colleges, community colleges, matriculation colleges and TAR[2] College, 30 polytechnics, 28 institutes of teacher education, and 12 others. The private HEIs consist of 38 universities, 22 university colleges, 364 colleges, and 88 others (see Table 6.1). In addition, there are approximately 1,068 skills development centres throughout the country. Approximately one third of these skills development centres is in the public sector established by various ministries such as Ministry of Human Resources, Ministry of Youth and Sport, Ministry of Agriculture and others. While most of the private HEIs are located in the Klang Valley near the capital, Kuala Lumpur, the Malaysian government has spread many of the public HEIs throughout the country for easy accessibility.

The gross enrolment ratio (GER) of cohort 17–23 years old has increased steadily from 22 % in 2005 to 36 % in 2011. Figure 6.1 shows tertiary student enrolment by institution type and GER, 2001–2011. The total number of tertiary students has almost doubled from 600,000 in 2001 to 1.2 million in 2011. Out of the total, 58 % were enrolled in the public HEIs, 35 % were enrolled in the private HEIs, and 7 %

[1] MARA Junior Science Colleges is a group of boarding schools established by the People's Trust Council (Majlis Amanah Rakyat, known as MARA) which is a Malaysian government agency.

[2] TAR College is Tunku Abdul Rahman College.

Table 6.1 Number of higher education institutions

Types of institution	Public	Private
University	21	38
University college	0	22
College	130[a]	364[b]
Polytechnic	30	0
Institute of Teacher Education	28	0
Others[c]	12	88
Total	221	512

Source: NHERI (2013)
Notes:
[a]The public "college" category includes MARA colleges, community colleges, matriculation colleges, TAR College
[b]Different branches of the same institution are counted as "different" institutions as they are situated in different locations
[c]The "others" category includes various institutes, academies, and centres established by ministries other than Ministry of Education

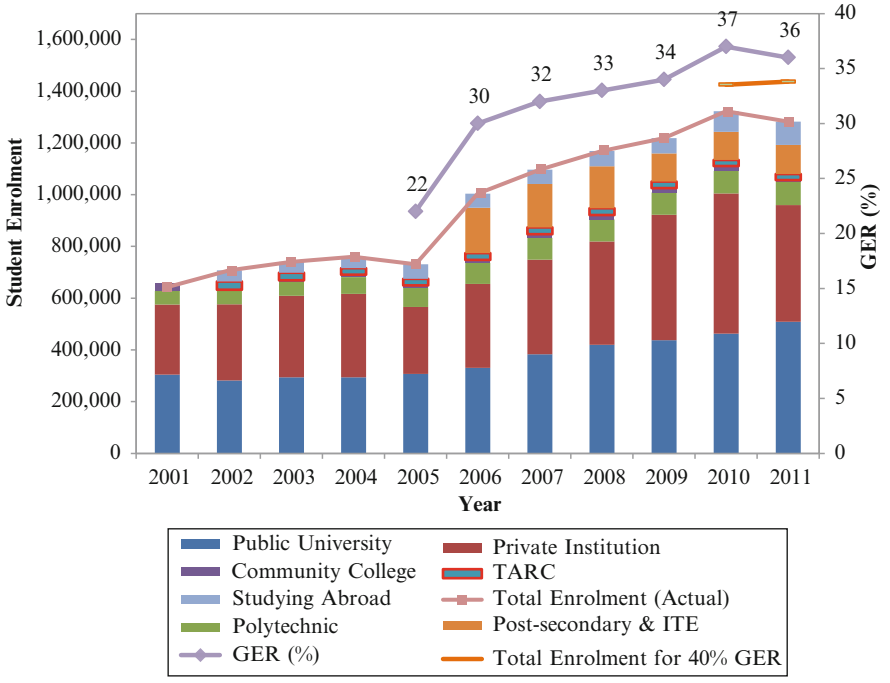

Fig. 6.1 Student enrolment by institution type and GER, 2001–2011 (Source: NHERI 2013)

were studying abroad (NHERI 2013). Without doubt, the higher education system in Malaysia has expanded rapidly in the past three decades. Like in many other countries, the rapid expansion of higher education has been fueled by a strong social demand for higher education, which is seen as the main avenue for social mobility and social equality, and facilitated by the democratization of secondary education and the growing affluence of Malaysian society. The following section examines the various national strategies used to sustain the rapid growth of the higher education sector.

6.3 National Strategies

By 2004 the higher education sector in Malaysia has grown so huge that a separate Ministry of Higher Education[3] was set up to manage and administer the delivery system. In 2007, the Ministry of Higher Education launched the National Higher Education Strategic Plan (NHESP) 2007–2020 which identified seven strategic thrusts for the development of higher education. The seven strategic thrusts (MoHE 2007) were:

- Widening access and increasing equity
- Improving the quality of teaching and learning
- Enhancing research and innovation
- Strengthening higher education institutions
- Intensifying internationalization
- Enculturation of lifelong learning
- Reinforcing delivery systems of MoHE

As in other countries, the major issues relating to higher education are access and equity, quality and relevance, and effectiveness and efficiency in the higher education system. The rapid expansion of higher education and the rising unit cost have caused tremendous fiscal strain on many countries which have had to seek other sources of funding and to restructure their higher education systems. Malaysia is of no exception. The following discussion focuses on the strategies used by the government to widen access and increase equity, to finance higher education and to assure the quality of higher education.

6.3.1 Access and Equity

As observed by Trow (2006), the development of a higher education system usually goes through three stages, namely, from elite to mass to universal higher education. Each of these three forms of higher education has a different function to play

[3] The Ministry of Higher Education was merged again with the Ministry of Education in 2013 for better coordination between the school and higher education systems.

(Brennan 2004). Elite higher education is aimed at shaping the mind and character of a ruling class; mass higher education is aimed at transmission of skills and preparation for a broad range of technical and economic elite roles; universal higher education is aimed at the adaptation of the "whole population" to rapid social and technological change. Malaysia currently is at the mass higher education stage and is striving to reach the universal stage. Under the NHESP, the target is for the GER to increase to 50 % by 2020 (MoHE 2007).

Equity is equally important as accessibility and should be given attention in higher education policy planning. Equity in higher education ensures that no qualified students are being denied or deprived in acquiring higher education due to their social status, gender, age, ethnicity and other factors. To correct the economic imbalance among the ethnic groups in Malaysia, an ethnic quota system for admission into public universities was implemented from 1979 to 2002 (Lee 2004). For effective implementation of this policy, the ministry has a Central Processing Unit for Universities, which deals with the selection of students for admission to public universities. This affirmative action policy was later replaced by a so-called "merit system" for university admission, so-called because Bumiputera students are selected for admission based on the matriculation examination results whereas the non-Bumiputera students are selected based on the STPM[4] examination results. Critics called it an unjust system because the results of both these examinations are not comparable (Lim 2013). Until today none of the public universities, with the exception of Universiti Sains Malaysia,[5] has the autonomy to directly select their own student intakes at the undergraduate level.

The equity issue not only addresses the education needs of different ethnic groups but also takes into account gender, the poor, and the indigenous people. Similar to many other countries, there are more female than male students in the HEIs. The overall male to female ratio is 45:55 and this ratio is even higher in the public HEIs, that is, 40:60 in favour of females (NHERI 2013). To increase the equity of participation from the rural and urban poor, Bumiputera in Sabah and Sarawak, Orang Asli, and the disabled, particularly in the technical and vocational fields, the government has established HEIs and skills development centres throughout the country. Financial assistance to students is provided by various organizations[6] in the form of scholarships and student loans. Nonetheless, the biggest funding body for tertiary students is the National Higher Education Fund Corporation (NHEFC). The NHEFC student loan scheme is heavily subsidized by the government and any student who is enrolled in an accredited programme is entitled to apply for the loan. However, the number who defaults on their payment is quite high and there is considerable concern about the sustainability of this funding mechanism (MoHE 2007).

[4] STPM stands for *Sijil Pelajaran Tinggi Malaysia* meaning Malaysia Higher School Certificate.

[5] Universiti Sains Malaysia was given the autonomy to select its own student intakes directly when it became the Accelerated Programme for Excellence (APEX) university in 2008.

[6] Examples are: Public Service Department (PSD), Majlis Amanah Rakyat (MARA), Tunku Abdul Raman Foundation (Yayasan Tuanku Abdul Rahman YTAR), PETRONAS, Yayasan Telekom Malaysia, Yayasan Tenaga Nasional, Khazanah Nasional as well as foundations and state governments.

6.3.2 *Financing Higher Education*

The continual expansion of the higher education systems is putting great fiscal pressures on many governments which have to look for alternative and innovative ways of financing higher education. The restructuring of higher education is a worldwide phenomenon and it is possible to identify some of the global influences in Malaysia. Studies on the restructuring of higher education in different countries have shown that there is a convergence of higher education policy ideas on issues related on how to allocate resources, generate new revenue, realign to new demands, improve teaching quality, and organize so as to lower cost while increasing efficiency and productivity (Gumport and Pusser 1999). The restructuring of higher education in many countries involves the privatization of higher education, the corporatization of public universities, the implementation of student fees, and the formation of strategic partnerships between the public and private sector in the provision of higher education. Privatization of education is part and parcel of the neo-liberalism ideology which is prevalent in many countries in the Asia Pacific region (Lee 2013). Neo-liberals espouse the superiority of the market rather than the state as the allocator of resources. They seek to increase corporate earnings and economic efficiency by privatizing public institutions, reducing state regulation and taxation, and rolling back the "costly" welfare state (Carl 1994). Market forces, privatization, and choice are seen as the answer to a poorly functioning state education system.

In the past, the Malaysian government was the main provider of higher education, but with the massification of higher education the state encountered tight budgetary constraints in sustaining the expansion so it privatized higher education and corporatized the public universities. While private higher education has been a long tradition in countries such as USA, Japan, South Korea, Indonesia, and the Philippines, it is a relatively new development in Malaysia. With the deregulation of higher education in the mid-1990s, there was a sharp increase in private universities and colleges. In 1995, there was not a single private university in the country but by 2013 there was a total of 38 private universities and 22 private university colleges (see Table 6.1). The rapid expansion of the private higher education sector is due to the increasing demand especially from the non-Bumiputeras who do not get access to the public HEIs.

Along with the privatization of higher education in Malaysia, public universities are being corporatized. In 1995, the Universities and University College Act 1971 was amended, laying the framework for all public universities to be corporatized. Through corporatization, public universities are freed from the shackles of government bureaucratic regulation provision and are run like business corporations. Corporatized universities are empowered to engage in market-related activities such as entering into business ventures, raising endowments, setting up companies, and acquiring and holding investments. The Malaysian government continues to own most of the public universities's assets and to provide development funds for new programmes and expensive capital goods. But the corporatized universities have to shoulder the burden of raising a portion of the operating costs. Although the

corporatized universities are required to raise revenue from market-related activities, they are not allowed to raise tuition fees unilaterally, particularly at the undergraduate level. Any increase in tuition fees has to be approved by the Ministry of Education. This has forced corporatized universities to adopt strategic plans to seek revenue from other sources such as full fee-paying foreign students, research grants and consultancy, franchising educational programmes, fees from rental of university facilities, and interest or dividends from investments (Lee 2004).

A common strategy to finance higher education is cost recovery where students and parents share the cost of their higher education by paying tuition fees. The justification for cost recovery is based on the argument that the private rate of returns to higher education is higher than the social rate of returns. But the introduction of cost recovery would be politically difficult to implement without the need for the provision of financial support to the academically qualified poor students. Therefore, in the 1990s, student loans were introduced in various forms in many countries. In the context of Malaysia, private higher education institutions charge relatively high tuition fees compared to public higher education institutions which are heavily subsidized by the government. However, as mentioned earlier, students enrolled in an accredited programme, even in a private institution, are entitled to apply for an NHEFC student loan. An NHEFC student loan is a mortgage type of loan where specific repayments are made over a fixed period. The drawback of this loan is that it may increase the default rates owing to the uncertain private rate of return of higher education. The high default rate of the NHEFC student loan scheme has led the government to consider changing the loan scheme from a mortgage type to an income-contingent loan scheme where repayment takes the form of a certain percentage of the borrower's annual income.

6.3.3 Quality Assurance

The massification of higher education often causes concerns over the potential decline of academic quality of higher education programmes. Key stakeholders such as businesses, professional bodies and employers are losing confidence in the ability of higher education institutions to meet the needs of modern workplaces and labour markets in an increasingly competitive and changing economy. At the same time, budget cuts on the one hand and expanding higher education systems on the other have led to stagnating or declining government funding per student in higher education institutions. Thus, many governments are demanding greater public accountability from higher education institutions. There is a growing public demand for transparency in the higher education systems especially with regards to the quality of higher education. The emergence of national quality assurance and accreditation bodies can be seen as a response to such public demand (Lee 2013).

After an initial period of unregulated expansion, the Malaysian government took steps to regulate and consolidate the development of private higher education in the mid-1990s (Lee 2004). The 1996 Private Higher Education Act stipulated that

before a private HEI can be established it must obtain a license from the Ministry of Education, register with the State Education Department, and the courses it offers must be approved by the National Accreditation Board (LAN).[7] In 2002, the Ministry of Education set up the Quality Assurance Division (QAD) to monitor and evaluate the quality of higher education programmes in public universities. In 2007, the Malaysian Qualifications Agency (MQA), which was a merger of LAN and QAD, was established and this entity is responsible for quality assurance of higher education in both the public and private sectors. The MQA accredits higher education programmes, carries out institutional audits, and rates higher education institutions in Malaysia. Malaysia has a Malaysian Qualifications Framework (MQF) which unites all the national qualifications awarded by certified higher education providers and a Malaysian Qualifications Register (MQR) which provides information on accredited programmes and qualifications of higher education providers. All these provisions are aimed at enhancing public confidence in the higher education qualifications awarded by Malaysian providers.

6.4 Innovative Practices

As the higher education system expands, the Malaysian government steers its development by restructuring the market for higher education services to produce outcomes consistent with national priorities. Both the public and private higher education institutions have to adjust and adapt to the changing environment of higher education. As a result, various innovative practices have been developed through institutional efforts to survive and compete in the changing ecosystem of higher education in Malaysia. Some of these innovative practices are discussed in greater detail in the following sections.

6.4.1 Transnational Higher Education

The rapid expansion of private higher education in Malaysia can be seen in the increased number of private HEIs and the wide range of educational programmes that are being offered. Over the years, private HEIs have evolved different modes of ownership, some of which are profit-oriented enterprises while others are not-for-profit. Besides differences in ownership, the private HEIs also differ in their market focus. Some of them offer a wide range of programmes in various fields of studies from pre-university to post-graduate, while others specialize in niche areas such as health-related fields, arts and design, language, hospitality, music and so on. As in other countries, the survival of the private HEIs depends on their ability to experiment and innovate with different kinds of educational programmes so

[7] LAN is the National Accreditation Board, established in 1997 to monitor the standard and quality of higher education provided by the private sector.

that they can offer more choices to their customers. The educational programmes offered by private HEIs in Malaysia can be broadly categorized into three groups, namely, (i) internal programmes, (ii) transnational education programmes, and (iii) programmes leading to qualifications awarded by external examination bodies (Lee 2004).

The internal programmes are based on the curricula and examinations set by the private HEI concerned. Students can follow these programmes on either a full-time or part-time basis, and upon completing they are conferred a certificate or diploma by that particular private HEI.

As mentioned before, there was no private university before the Private Higher Education Act in 1996. Private colleges were not allowed to confer degrees. To overcome this constraint, many private colleges at that time forged various kinds of institutional linkages with foreign universities to offer different types of degree programmes and professional qualifications. This led to the emergence of transnational education programmes which can be broadly divided into the following types:

- ***Twinning programmes***: a situation where a provider in Malaysia collaborates with a provider in another country to develop an articulation system that allows student to take course credits in Malaysia and/or the foreign country. On completion of the twinning programme a qualification is awarded by the foreign provider.
- ***Franchise programmes***: an arrangement whereby a provider in a foreign country authorizes a local provider to deliver their course/or programme in Malaysia and the qualification is awarded by the foreign provider.
- ***Double or joint degree***: an arrangement where providers in Malaysia and other countries collaborate to offer a programme for which a student receives a qualification from each of the providers, or a joint award from the collaborating partners.
- ***E-learning or distance***: arrangements where providers deliver courses/programmes to students in Malaysia and other countries through distance and online modes.

Besides these internationally-linked programmes, Malaysia also has five branch campuses[8] of Australian and UK universities

Many private HEIs in Malaysia also prepare students to sit for external examinations set by local and foreign examination bodies/boards. The examination bodies set the syllabi and examinations as well as award qualifications to students upon successful completion. The private HEIs only conduct the programmes on behalf of the examination bodies. Generally, there are two types of examination bodies, namely, (i) qualifying examination bodies of professional associations[9] which confer qualifications relating to specific trades or skills such as accountancy, engineering

[8]The 5 foreign branch campuses are Monash International University, Curtin University of Technology Sarawak, The University of Nottingham Malaysia, Swinburne University of Technology of Sarawak, and Newcastle University of Medicine Malaysia.

[9]Some examples of the professional associations are Institute of Engineers Malaysia (IEM), Association of Chartered and Certified Accountants in UK (ACCA), and Institute of Chartered Secretaries and Administrators in UK (ICSA), and others.

and management, and (ii) academic examinations bodies which are examination bodies of international standing that set syllabi, examinations and confer the qualifications at the levels of certificate, diploma, pre-university,[10] semi-professional[11] or at other equivalent levels.

6.4.2 University Governance and Management

In general, the relationship between the state and higher education institutions are constantly being redefined with the state demanding for more accountability and higher education institutions insisting on more autonomy (Neave 2001). An emerging trend is an increase in institutional autonomy in return for more accountability. In the context of Malaysia, the institutional autonomy of private universities and corporatized public universities has increased in terms of governance structure, academic matters, financial management, staff management, leadership appointment and student intake (Lee 2012). At the same time, higher education institutions in Malaysia are increasingly being subjected to public accountability as well as to more internal and external control. As mentioned earlier, higher education programmes have to be accredited and higher education institutions have to be audited by the Malaysian Qualifications Agency (MQA). An analysis by Morshidi (2010) on the changing state-university relationship in Malaysia shows that Malaysian public universities are still very much state controlled because the Malaysian government is reluctant to give full autonomy to the public universities in the present climate of political and economic uncertainty.

As the higher education system expands, it becomes more bureaucratic and regulated so as to ensure consistency of treatment in various areas pertaining to the governance and management of HEIs. It also becomes more complex, comprising a wide variety of institutions with different missions, in different geographical locations, and thus making it increasingly difficult to manage centrally. Clearly a more decentralized management is needed to cope with the challenges. The 21 public universities in Malaysia are divided into three categories, namely, (i) 5 research universities, (ii) 4 comprehensive universities and (iii) 12 focused universities.

Many Malaysian public universities have adopted "New Public Management" techniques in their efforts to improve their accountability, efficiency and productivity (Lee 2004). Management techniques from the private sector such as mission statements, strategic planning, total quality management, ISO certification, right sizing,

[10] At the pre-university level, private colleges offer O-level and A-level programmes from UK and matriculation examinations from Australia and Canada, as well as entrance examinations to American universities such as SAT GMAT, and GRE.

[11] Private colleges offer a wide range of courses which provide practical, employment training in technical, trade and craft areas. Many of these courses lead to formal awards of certificates, diplomas and higher diplomas from foreign examination bodies such as Business Technology Education in UK (BTEC), Technical and Further Education in Australia (TAFE), National Computer Centre in UK (NCC), City and Guilds of London Institute (C&G) and others.

and benchmarking are being institutionalized in public universities. Schools, faculties, and research centres are required to carry out strategic planning and prepare their mid-term and long-term business plans. Cost centres that are considered not viable have either been closed down or merged. To improve management and quality assurance at the institutional level, corporatized public universities have established corporate development divisions to formulate policies and carry out long-term planning for the university as well as quality assurance divisions to self-evaluate all internal operational procedures such as registration, course development, vetting examinations, and others that are already in place in the universities. The divisions' functions include carrying out academic audits, maintaining quality and managing an information system on student and staff ratios, staff profiles, research projects and other performance indicators for strategic planning purposes. All these innovative management practices can be seen as promoting a more powerful role for central university authorities in resource management and in orienting and controlling department activities.

6.4.3 Public-Private Partnerships

The perception of higher education as a public good or as a private service has far reaching impact on the policies and practices in various countries in the region. Although there is a large private higher education sector in countries such as Japan, South Korea, and Indonesia higher education is very much seen as a public good in these countries where most of the private HEIs are not-for-profit. On the other hand, higher education is seen as a private service in the Philippines where many of the private HEIs are for profit. Malaysia has a hybrid model where higher education is viewed both as a public good and private service. There is a blurring of distinction between public and private in the higher education sector in many of the practices in Malaysian higher education system.

The privatization of higher education in Malaysia has led to the mushrooming of different types of private HEIs (Lee 2004). Some of them are profit-oriented while others are for non-profit. Profit-making HEIs were set up by individual proprietors, private companies, consortia of companies, and public listed companies. Non-profit private HEIs were established by foundations, philanthropic organizations, and through community support. For example, Universiti Tenaga Nasional[12] (UNITEN) and Multimedia University[13] (MMU) were established by government corporations; University Tunku Abdul Rahman[14] (UTAR) and Wawasan Open University[15]

[12] Universiti Tenaga Nasional (UNITEN) was set up in 1997 by the National Electricity Board which was one of the privatized public utilities in Malaysia.

[13] Multimedia University (MMU), set up in 1994 by Telekom Malaysia Berhad, is the largest telecommunications company in Malaysia.

[14] Universiti Tunku Abdul Rahman (UNTAR) was set up by the Malaysia Chinese Association (MCA) in 2002.

[15] Wawasan Open University (WOU) was set up by Parti Gerakan Rakyat in 2006.

(WOU) were set up by political parties; and Open University Malaysia (OUM) was established by METEOR, a consortium of 11 Malaysian public universities.

The massification of higher education in Malaysia has resulted in a wide range of innovative public-private partnerships (Lee and Neubauer 2009). Public and private partnerships are cooperative ventures between and the state and private businesses intended to spread financial risks between the public and private sector while expanding access and capacity. Examples of public-private partnerships include state governments partnering private companies to establish state HEIs such as University of Selangor[16] (UNISEL); public universities franchising their educational programmes to private HEIs; public universities partnering private companies to engage in market-related activities such as the setting up of industrial parks and incubators; and the practice of outsourcing to private companies to provide various student services.

6.5 Conclusion

The massification of higher education in Malaysia poses many challenges including widening access and increasing equity, seeking funding sources, enhancing the quality and relevance of higher education, and improving the efficiency and effectiveness of the delivery system. The analysis in this chapter shows that many of the national strategies adopted by Malaysia to sustain the expansion of its higher education are very much influenced by global rationalization (Davies and Guppy 1997) such as the neoliberalism ideology, the commercialization of higher education, and the practice of New Public Management. However, many of these global influences interact with the local sociopolitical and economic context of Malaysia resulting in innovative practices such as various types of transnational educational programmes, corporatization of public universities, and different forms of public-private partnerships in the higher education sector.

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[16] University of Selangor (UNISEL), a semi-government university, was established by the Selangor State Government in 1999.

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Chapter 7
From Massification Towards the Post-massification of Higher Education in Hong Kong

Jisun Jung and Gerard A. Postiglione

7.1 Introduction

The massification is one of main features in higher education around the world, both in absolute numbers and in proportion by age cohort. There were around 500,000 students in higher education institutions globally at the beginning of the twentieth century and approximately 100 million students by 2000 (Guri-Rosenblity et al. 2007). There are several motives for the massification of higher education, such as the democratization of politics and society, the growth of the public sector that requires more university graduates, an expanding industrial economy that requires more highly skilled workers, the demand for educated manpower for further economic development and the attractiveness of education itself as a major element of the new welfare states (Gibbons 1998). However, it is impossible to teach all of the large number of students in traditional, elite, research universities and each society has developed their own strategies to respond the high demand for higher education. It includes the creation of new universities, expansion of non-university forms of post-secondary education offering different types of degrees, and the assimilation of new sectors into the degree granting system (Gibbons 1998).

This chapter focuses on the development of mass higher education in Hong Kong and discusses at policy agendas for post-massified higher education. The post-secondary participation rate for the 17–20 age cohort in Hong Kong has increased from 12 % in 1984, 22 % in 1994, 31 % in 2004, and 60 % in 2012 (World Bank 2014). This is certainly a rapid expansion compared to Western countries, which have typically experienced gradual expansions over periods of several decades (Kaiser and de Weert 1994). Wan (2011) presented the background of higher education massification in Hong Kong, including the change in the economic structure

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from second industries to service-related industries; political, social, and cultural changes including reunification with the mainland in 1997; and the change in sovereignty.

The chapter particularly focuses on Hong Kong strategies to respond to the massification of higher education. For example, in addition to the establishment of new universities, some existing polytechnic institutions were upgraded to offer degree programs. Furthermore, self-financed programs and associate degree programs were also introduced to respond to the government initiatives focused on increasing higher education opportunities. Finally, the study also explores policy issues regarding the post-massification of higher education in Hong Kong in terms of quality, relevance, financial resources, and equity.

7.2 Massification of Higher Education in Hong Kong

7.2.1 A Brief History of Higher Education in Hong Kong

Before the 1970s, higher education in Hong Kong was mainly provided by two local universities; The University of Hong Kong (established in 1911) and The Chinese University of Hong Kong (established in 1964). During this period, the number of tertiary degree places was very limited and the programs were highly regarded as elitist education. The two universities stood as elite training grounds for civil servants, professionals, and urban elites for a long time (Postiglione 2007). Although the Hong Kong Polytechnic and City Polytechnic of Hong Kong were established in the 1970s and early 1980s, respectively, their educational aims were for students to develop the technical and applied knowledge and skills required for employment in industries (Postiglione 2007). By 1981, only 2 % of the relevant age cohort (18–21 years old) was university students, a figure that increased to 8 % by 1989.

In the late 1980s, the government initiated schemes to increase the number of publicly funded higher education institutions with a change in the economy, where talented and knowledgeable people were demanded by the labor market. In the Education Commission Report No. 3 (1988), it was proposed that the first priority should be to increase the number of students entering higher education each year, provided resources were available. In the Governor's Policy Address of 1989, it was announced that the number of degree places offered would be increased to provide higher educational opportunities to 18 % of the 17–20 age group in 1991–1995.

The policy initiative to increase tertiary education enrollment led to the introduction of several strategies in the 1990s. The government has upgraded four existing colleges or polytechnic institutes to offer degree programs with university status since the mid-1990s (Education Commission 1992). In addition, the Hong Kong University of Science and Technology was established in 1991.

7.2.2 Current Landscape of Higher Education in Hong Kong

7.2.2.1 Competitiveness of Public Universities

Higher Education in Hong Kong has significantly evolved in terms of teaching and research for last two decades, and the competition for the best students and for the most research funds among the eight publicly funded institutions of higher education is highly intense (Postiglione 2007). Table 7.1 presents a recent overview of the eight higher education institutions in Hong Kong, including the number of students, academic staff, and grants.

Table 7.1 Higher education institutions in Hong Kong (academic year: 2011/2012)

	Number of students: full time (part time)					Number of academic staff	Grants ($m)
	SD	Ug	Tpg	RPg	Total	Full time	Total recurrent grants
City University of Hong Kong	1,102	8,594	53	673 (5)	10,422 (5)	2,867	1,418.0
Baptist University	–	4,793	24 (508)	222	5,039 (508)	1,454	692.3
Lingnan University	–	2,152	–	59 (3)	2,211 (3)	394	285.1
Chinese University of Hong Kong	–	11,504	321 (819)	1,708 (26)	13,533 (845)	5,121	2,813.3
Hong Kong Institute of Education	450 (1,454)	2,925 (1,491)	148 (722)	29	3,552 (3,667)	843	542.6
Hong Kong University of Science and Technology	–	6,389	–	1,149 (17)	7,538 (17)	2,178	1,584.5
The University of Hong Kong	–	10,619	517 (548)	1,928 (143)	13,064 (691)	4,845	2,905.3
Total	4,875 (2,052)	56,921 (1,491)	1,077 (2,609)	6,366 (206)	69,239 (6,368)	21,435	12,219.1

Source: University Grant Committee
Student Enrolment (Headcount) of UGC-funded Programmes by Institution, Level of Study, in 2011/2012
Staff Number (Headcount) in Academic Departments of UGC-funded Institutions by Institution, 2011/2012
Grants for UGC-funded Institutions for 2010/2011 and 2011/2012
Notes:
1. *SD* sub-degree, *Ug* undergraduate, *TPg* taught postgraduate, *RPg* research postgraduate
2. The figures on recurrent grants and matching grants refer to the financial year of institutions from July to June

As Table 7.1 presents, currently, there are a total of eight government-funded higher education institutions in Hong Kong, and all are supervised by the University Grants Committee (UGC). They all offer undergraduate programs; however, their functions are slightly different. For instance, Postiglione and Wang (2012) distinguished between two types of higher institutions in Hong Kong, which they refer to as *Types I and II institutions. Type I* (three institutions) are those that "offer research postgraduate programs for a significant number of students in selected subject areas," and *Type II* institutions (four institutions) are those that "offer a number of taught postgraduate programs and research postgraduate programs in selected subject areas." On the other hand, the Hong Kong Institute of Education focuses primarily on the training of teachers.

Table 7.2 presents annual changes in the higher education budget in Hong Kong. The total expenditure for UGC-funded institutions increased from 18,036 (HK$m) to 24,819 (HK$m) from 2005 to 2012, and the departmental expenditure on research also increased from 5,085 (HK$m) to 7,155 (HK$m). However, despite the increase in the total expenditure, the ratio of the expenditure of UGC-funded institutions to the GDP remains stable at less than 1.5 %.

Upon the change of sovereignty in 1997, the Chief Executive of the Hong Kong Special Administrative Region (HKSAR) announced in 2000 that 60 % of the 17–20

Table 7.2 Higher education budget in Hong Kong by academic year

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
Expenditure of UGC-funded institutions (HK$m)							
Total expenditure	18,036	19,108	21,250	23,032	22,874	23,831	24,819
Departmental expenditure on research	5,085	5,411	6,057	6,650	6,835	6,948	7,155
Gross domestic product (GDP) (HK$bn)	1,458	1,559	1,711	1,665	1,709	1,862	1,971
Ratio of expenditure of UGC-funded institutions to GDP							
Total expenditure (%)	1.24	1.23	1.24	1.38	1.34	1.26	1.26
Departmental expenditure on research (%)	0.35	0.35	0.35	0.40	0.40	0.37	0.36

Source: University Grant Committee

Notes:

1. The amount of research expenditure by academic departments is affected by how an institution apportions its departmental expenditure between teaching and research as well as how it apportions total expenditure between academic departments and central activities
2. GDP figures are extracted from a publication "Gross Domestic Product" by the Census and Statistics Department
3. Allocation to reserves has been excluded in the total expenditure as from 2000 to 2001 following their conversion into a general and development reserve
4. The figures on expenditure include expenditure met by self-financed sources of funding

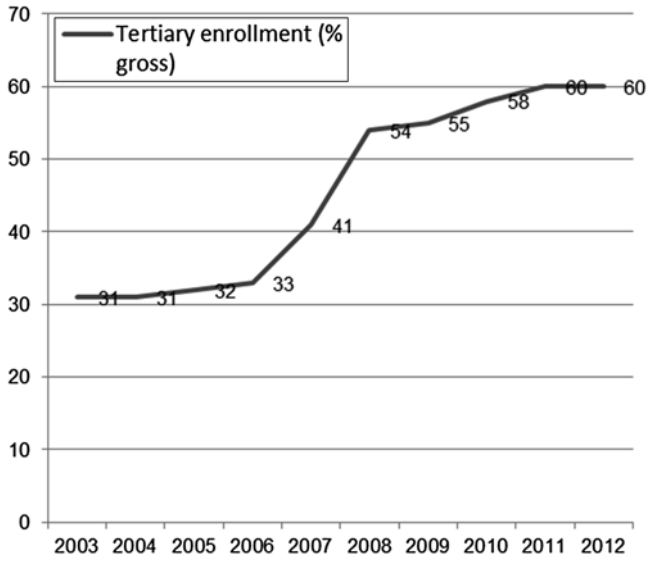

Fig. 7.1 School enrollment in tertiary education (%) (Source: World Bank (2014). http://data.worldbank.org/indicator/SE.TER.ENRR/countries)

age cohort would be enrolled in higher education by 2010, a doubling of the 2001 figure (University Grants Committee 2002).

Figure 7.1 clearly shows the rapid increase of tertiary education enrollment in Hong Kong over the last decade. According to World Bank data, enrolment in tertiary education in Hong Kong was only 9 % of age cohort in 1980. It increased to 12 % in 1984 and 22 % in 1994. It was still in 31 % in 2004; however, tertiary enrollment has expanded almost twofold in the last decade and reached 60 % in 2012.

7.2.2.2 Increase of Self-Financing Sub-degree Programmes

One of government strategies used to increase tertiary enrollment was to promote self-financed associate degree programs not only in existing universities, but also in new tertiary education institutions including community colleges and new types of local institutions. Furthermore, there was also increase in non-local transnational programs to meet the high educational demand among young people (Katherine et al. 2013). Table 7.3 shows the significant increase in self-financing programs in Hong Kong. There were only 20 sub-degree programs in 2000/2001, and the number of institutions increased to 302 in 2006/2007.

The key suppliers of self-financed sub-degree programs were parent universities (when they are affiliated institutions from publically funded higher education institutions), the publicly funded Vocational Training Council and some private

Table 7.3 Number of full-time self-financing post-secondary programmes offered in Hong Kong

	2000/2001	2001/2002	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007
Degree	–	3	7	11	26	40	41
Sub-degree	20	38	77	112	173	233	261
Total	20	41	84	123	199	273	302

Source: UGC (2008, p. 5)

Table 7.4 Associate degrees affiliated by public universities

University	Associate degrees
The University of Hong Kong	HKU School of Professional and Continuing Education (SPACE)
	HKU SPACE Po Leung Kuk Community College
The Chinese University of Hong Kong	Tung Wah Group of Hospitals Community College
The Hong Kong University of Science and Technology	College of Lifelong Learning
The Hong Kong Polytechnic University	Hong Kong Community College
Hong Kong Baptist University	College of International Education
City University of Hong Kong	Community College of City University
Hong Kong Institute of Education	School of Continuing and Professional Education
Lingnan University	Community College at Lingnan University

Source: Mok and Cheung (2011, p. 242)

non-profit providers (Katherine et al. 2013). For example, UGC-funded universities opened the associate programs, as Table 7.4 shows, in the late 1990s. They are allowed to offer degree and sub-degree programs accredited by the Hong Kong Council for Accreditation of Academic and Vocational Qualifications and (Chan 2012).

To activate sub-degree programs, the government also offered a loan scheme to post-secondary education providers to support their initial start-up costs in 2001. For instance, at the end of 2009, a total of 23 loans amounting to over HK$4 billion were approved for 14 different institutions (Legislative Council 2001). This money was used to provide scholarships and support quality enhancement efforts of institutions. According to the *Progress Report on Education Reform No. 4* (Education Commission 2006), five tracts of land were also allocated (Wan 2011). In addition, the government also supported student grants and loans. The government pledged "to ensure that no one would be deprived of further education opportunities because of the lack of means" (Li 2005). Hence, the government provided a package of financial assistance schemes to aid eligible students. These included means-tested grant, low-interest loan (the ceiling of grant or low-interest loans for 2004/2005 was $55,890 [US$7,800]), non-means-tested loans and travel subsidies (Postiglione 2008).

7.2.2.3 Main Figures of Higher Education Expansion in Hong Kong

In short, the expansion of tertiary education in Hong Kong can be explained from two perspectives: reliance on sub-degree rather than bachelor's degree programs, and reliance on self-funded rather than publicly funded programs. Figure 7.2 shows the number of students in tertiary education institutions by types of degree: bachelor's degrees based on UGC-granted 4-year universities and sub-degrees mainly based on associate degrees and higher diplomas. From 2000 to 2010, the number of students in bachelor's degree programs has increased, but steadily. The number of enrolled students in bachelor's degree programs in 2000 was 14,209 and it reached 18,766 in 2010. On the other hand, there has been much larger growth in sub-degree programs. In 2000/2001, there were 9,549 enrolled students in sub-degree programs, and this drastically increased for the next 10 years; 34,949 students were enrolling in sub-degree programs in 2009/2010.

Specifically, sub-degrees are divided into two types in Hong Kong: higher diplomas and associate degrees. A higher diploma is the most common sub-degree qualification in the United Kingdom, and it has been for more than 35 years in Hong Kong since the colonial period. On the other hand, associate degrees have a relatively short history in Hong Kong. After the UGC announced its policy target to increase higher education enrolment, some UGC-funded

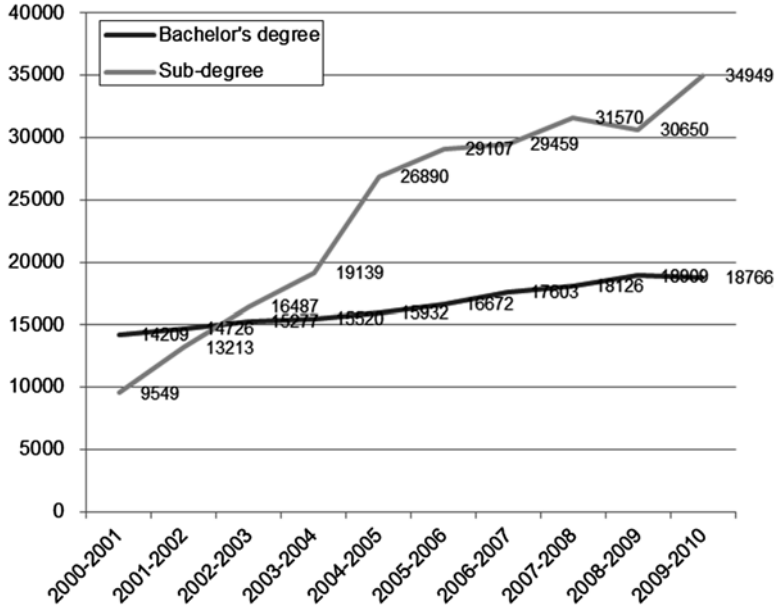

Fig. 7.2 Number of students in Hong Kong higher education: By types of degree (Source: University Grant Committee (2010). *Key Statistics of the Post-secondary Education Sector*, p. 157. Notes: The figures for Bachelor's degree programmes refer to full-time first-year-first-degree intakes)

institutions and their self-financing arms started to offer associate degree courses, and at the same time set up a number of community colleges in 2001. A few institutions have converted their existing higher diploma programs into associate degree programs. Unlike a higher diploma, an associate degree was imported from USA community college model and it has not widely known by the employers and the community in Hong Kong yet due to the short history (Educational Bureau 2008).

In terms of curriculum, the higher diploma programs focus on equipping students with knowledge in specific and professional areas; these programs can be regarded as vocational education to some extent through awarding degree or certificate (Wan 2011). Higher diploma includes programs from UGC-funded institutions' affiliated institutions, Hong Kong Academy for performing arts, and vocational institutions as well. The associate degree programs focus on imparting general knowledge for students to articulate arrangements to undergraduate studies although the distinction between higher diploma and associate degree has become somewhat blurred in recent (Educational Bureau 2008).

There has been significant increase in enrollment in both programs as Fig. 7.3 shows. In higher diploma, the number of enrolled student was 7,068 in 2000/2001, it increased into 15,157 students in 2005/2006, and 20,241 students enrolled higher diploma programs in 2009/2010. The number of enrolled students in associate degree programs almost doubled per year from 2000 to 2005. The 2,481 students

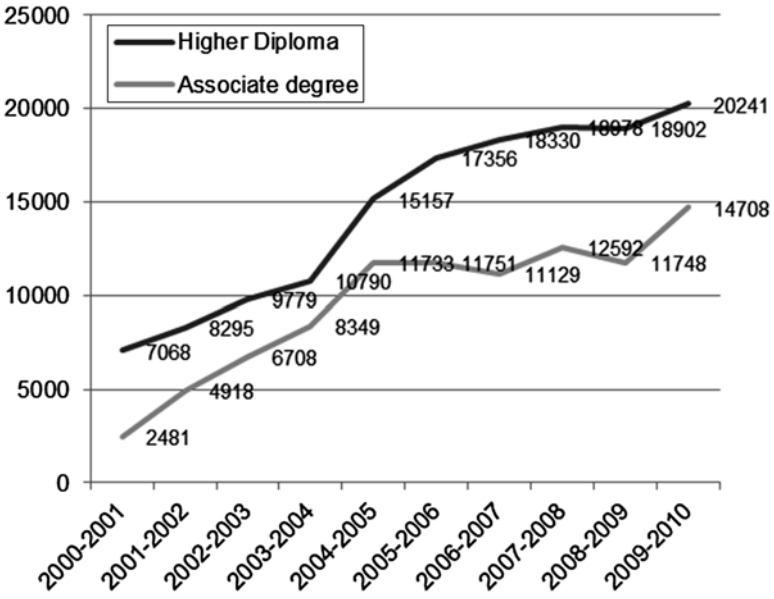

Fig. 7.3 Number of students in sub-degree in Hong Kong higher education: By program (Source: University Grant Committee (2010): *Key Statistics of the Post-secondary Education Sector*. p. 157)

enrolled in 2000/2001 increased to 4,918 in 2001/2002, 6,708 students in 2002/2003, 8,349 students in 2003/2004 and 10,790 students in 2004/2005. Currently, 14,708 students are enrolled the associate programs in 2010. Figure 7.3 clearly shows that the increase of tertiary enrolment in Hong Kong was mainly based on the increase of students in sub-degree programs.

We also paid attention to the funding source of sub-degree programs. For the last 10 years, the increase in student enrollment in sub-degree programs has mainly been due to self-financing students rather than publicly funded students. The number of students based on public funding is stable, approximately 10,000 students. However, there was a nearly tenfold increase in students in self-financed programs. There were 2,621 self-financed enrolling students in 2000/2001, but the number reached in 24,441 in 2009/2010. It is evident that the expansion of tertiary education in Hong Kong has mainly been based on self-financing programs rather than public-funded programs. Hong Kong's private, independent junior colleges and the associate degree programs they offer are self-financed. Tuition fees of self-financed associate degree programs offered by the 20 local institutions ranged from $30,000 to $50,000 (US$3,800–US$6,300) in the academic year 2004/2005 (Postiglione 2008) (Fig. 7.4).

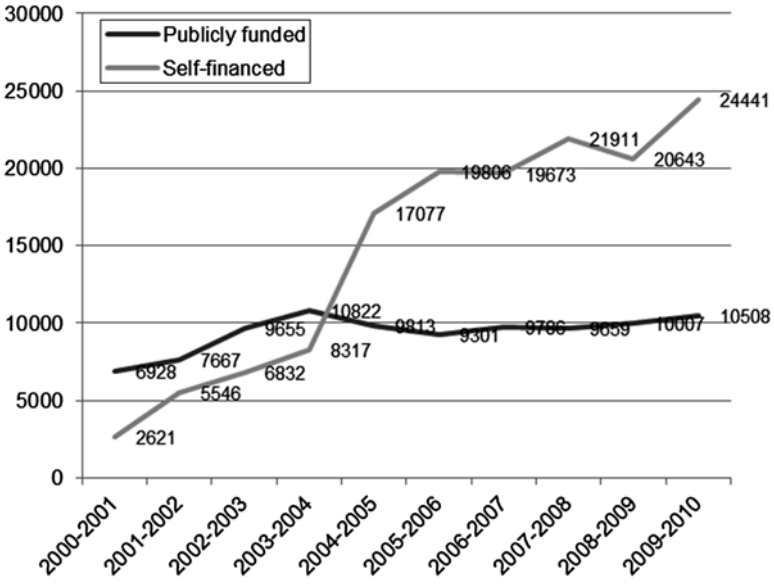

Fig. 7.4 Number of students in sub-degree in Hong Kong higher education: by funding source (Source: University Grant Committee (2010): *Key Statistics of the Post-secondary Education Sector*. p. 157)

7.2.3 Post-massification or Not?

In Hong Kong, the number of suppliers offering self-financing sub-degree programs has increased nearly tenfold over the last decade, and the number of students in these programs has also significantly increased. On the other hand, the number of publicly funded 4-year universities and students in bachelor's degree programs has barely changed in the same period. Tertiary education enrollment has doubled in a few years, and hence, the government believes that Hong Kong higher education is massified (UGC 2010). However, we can see that it is entirely due to the increase in sub-degree programs such as 2-year associate degrees, not bachelor's degrees. According to the definition of mass-higher education introduced by Trow (1974), higher education in Hong Kong has already reached a universal stage, comprising more than 60 % of enrollment. Reiko (2001) also defined it as post-massification. However, we still raise the question of whether it is possible to define this type of increase as post-massification, in particular, when we consider the limited access to bachelor's degree programs and reliance on the introduction of sub-degrees. Kember et al. (2010, p. 173) also raises the question, "Is this really higher education?" Although post-massified higher education naturally assumes the diversity of system (Guri-Rosenblity et al. 2007) and requires fuzzy boundaries (Scott 1995) with new types of provision (Kaiser and de Weert 1994), some are reluctant to embrace this diversity in the higher education sector. The sub-degree is also not a common pattern of expansion in higher education in Asia (Kember et al. 2011). Taiwan has seen significant growth in those taking short programs (Wang 2003), but in Japan and South Korea the proportions of shorter programs are slightly above 20 % (Hayhoe 1995).

7.3 Toward Post-massification in Hong Kong: Issues and Challenges

The Asian Development Bank (ADB) (2012, p. 6) suggested the following four overarching challenges of Asian higher education in the next century: (1) maintaining and improving education quality, even in the face of serious financial constraints; (2) increasing the relevance of curriculum and instruction at a time of rapid change in labor market needs; (3) increasing and better utilizing the financial resources available to higher education; and (4) balancing the continued expansion of access to higher education with greater attention to equity and to the need to raise quality. In this study, we discuss strategies and challenges of quality, relevance, financial resources, and equity matters in the context of post-massified higher education in Hong Kong, particularly focusing on two different types of institutions: bachelor's granting and sub-degree granting institutions.

7.3.1 *Quality*

Despite its short history and small size, Hong Kong leads the Southeast Asian region in terms of quality indicators in higher education. The eight institutions funded by the University Grants Committee (UGC) play the key role of teaching and conducting research in Hong Kong's higher education system. With less than 10 universities in its higher education system, three of Hong Kong's universities have been consistently ranked within the top five in Asia since 2009 (QS Asian University rankings). Three were ranked in the top 100 worldwide from 2004 to 2010, and two more universities have been also ranked in the top 200 (Times Higher Education Worldwide University rankings) (Table 7.5).

Quality assurance system in Hong Kong higher education is well-organized. The University Grants Committee (UGC) is an advisory body composed of academics and non-academic professionals from Hong Kong and overseas, and they play a proactive role to facilitate a series of quality assurance systems that link resource allocation directly to performance (Postiglione and Wang 2012). Hong Kong universities mainly follow three mechanisms— the *Research Assessment Exercises* (*RAE*), *the Teaching and Learning Quality Review* (*TLQPR*), *and the Management Review* (*MR*) to secure funding. The funding allocation to universities is mainly based on student numbers with adjustments for different disciplines and on institutions' performance, which is based on RAE. The RAE plays the most important role in the distribution of funding, and it requires all academic staff to submit three publications representing their research output produced during the preceding 4 years of the UGC for assessment. Every year the RGC publishes the total sum of research grants obtained by members in each institution (Kwan and Walker 2003). On the other hand, the TLQPR and the MR have been not directly related with resource allocation; however, they serve to promote self-assessment or self-enhancement and it became symbol for assuring teaching and learning quality (Postiglione and Wang 2012).

Table 7.5 University rankings

QS World University Ranking (2011)	Times Higher Education Ranking (2011)
The University of Hong Kong 23 (2nd in Asia)	The University of Hong Kong 34 (2nd in Asia)
The Hong Kong University of Science and Technology 33 (1st in Asia)	The Hong Kong University of Science and Technology 62 (7th in Asia)
The Chinese University of Hong Kong 40 (5th in Asia)	The Chinese University of Hong Kong 151 (15th in Asia)
City University of Hong Kong 95 (12th in Asia)	City University of Hong Kong 193 (20th in Asia)

Source: http://www.topuniversities.com/university-rankings/world-university-rankings/2011
http://www.timeshighereducation.co.uk/world-university-rankings/

The quality of self-financing degree programs is also an important issue worldwide since many private institutions find it hard to compete with public institutions, even though students pay more substantial tuition fees compared to those in public ones (Teixeira 2009). The rapid expansion of sub-degree programs in Hong Kong also has given rise to concerns about the quality in terms of program quality, the quality of teaching staff and facilities, as well as the quality of students and graduates. Sub-degree granting institutions in Hong Kong apply different quality assurance mechanisms. The Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ) was established in 1990 as an independent statutory body to provide authoritative advice on academic standards of degree programs. It provides quality assurance and assessment services to education and training institutions, course providers, and the general public, and it also provides advisory and consultancy services in education qualifications and standards (Educational Bureau 2008). From 2010, this was extended to non-local transnational programs, and the overseas providers were also encouraged to seek local accreditation. There are certain suggestions to improve the quality of sub-degree programs such as transparent credit accumulation and transfer systems across the post-secondary sector and better facilitation of progression routes at various levels, and between self-financed and publicly financed institutions (Katherine et al. 2013). To control the quality of sub-degree programs, the government has also been asked to play a more proactive role (e.g., setting ground rules), rather than leaving the development of the sector entirely to market forces (Educational Bureau 2008). The low quality of sub-degree programs may prevent people from undertaking it, which may also limit the further expansion of these programs (Chan 2012).

7.3.2 Relevance

In Hong Kong, there have been demands to reform educational curricula in terms of relevance, particularly with the economy's transition from a manufacturing to value-added service economy (Jaffee 2012). The transition would require knowledge workers who are highly educated with diverse and adaptable skills (University Grants Committee 2002). Chan (2012) citied Levin (1984)'s work and suggested that students need to develop complex reasoning and work-related skills, such as exploratory thinking, problem-solving, critical thinking, the ability to work with others, and cross-cultural understanding.

Under the education reform, the government identified the weakness of the curricular structure in secondary and tertiary education in Hong Kong, noting that "students are not given comprehensive learning experiences with little room to think, explore and create" (Hong Kong Education Commission 2000, p. 4). The same report recommended that undergraduate education "strike the right balance between

the breadth and the depth" and "in addition to helping students master the necessary knowledge and skills for specific professions/disciplines, give them exposure to other learning areas and help them develop a sense of integrity, positive attitude, a broad vision and important generic skills" (p. 9). With these initiatives, Hong Kong universities have established a general education curriculum, which aims to exposure to a wide range of perspectives, integrative and interdisciplinary thinking, and the cultivation of generic skills untethered to specialized disciplinary content knowledge. They are expected to demonstrate multiple disciplinary perspectives and integrative learning not only relying on professional and disciplinary specialization (Jaffee 2012).

The relevance of curricula is also an important issue in sub-degree programs. Sub-degree graduates are expected to possess generic knowledge and skills including languages, IT, interpersonal, communication, quantitative, and analytical skills, as well as the ability to gain a broad theoretical understanding of their chosen discipline and its application (Chan 2012).

However, the rapid expansion of higher education programs has brought about concerns of quality. According to a survey of employers, undergraduate degree holders have improved their skills more during their academic years than sub-degree graduates (Chan 2012). In addition, only one-third of the survey respondents among students regarded their sub-degree programs as offering value for money, given that fees for self-financed courses were higher than those for the heavily subsidized courses in publicly funded universities (Katherine et al. 2013). In addition, there was insufficient recognition of the associate degree qualification by employers. Therefore, it is important to offer relevant knowledge and skills acquired from prospective employers through curricula in sub-degree programs. Policy makers suggest that the dialogue between the business sector and post-secondary institutions should be broadened and deepened, so that there is continuous and active interaction between the two sides (Educational Bureau 2008).

There is also a question of whether sub-degree programs are the final destination for students before entering the job market or just a stepping stone to 4-year universities. Many students have regarded sub-degree programs as a potential step to gaining entry into traditional undergraduate degree programs, although they are difficult to get into since they are so competitive. This is mainly because the value of sub-degrees for employment has yet to be clearly established in Hong Kong (Kember 2009). However, if it does not become regarded as a qualification for employment and there are difficulties in articulation, sub-degrees could become visualized as an expensive route to "nowhere" (Kember 2009, p. 177).

Furthermore, since sub-degree programs have rapidly developed in a short time period, some believe that there is already a surplus of sub-degree programs, which lowers the quality and relevance of program. In particular, there is an over-concentration of sub-degree programs in certain popular disciplines such as business and marketing, which might not necessarily reflect and meet the long-term manpower requirements of Hong Kong (Educational Bureau 2008).

7.3.3 Financial Resources

The expenditure on publicly funded higher education in Hong Kong has been consistently maintained at 1 % or less of the gross domestic product (GDP) in the 2000s (University Grants Committee 2010). Table 7.6 shows the higher education budget (%) related to the total government budget and total education budget in Hong Kong. The higher education budget declined to 4.1 % in 2008/2009, but it has increased to 5 % in 2012/2013. The proportion of the higher education budget out of the total education budget also declined to 17.1 % in 2008/2009, but it has remained 24.3 % since 2011.

Although Hong Kong experienced a budget deficit in the late 1990s and the public funding for universities was cut, it was not easy to drastically reduce the funds since public higher education highly depends on public funds. In principal, higher education institutions have been encouraged to diversify their sources of financing since government funding would not meet the educational demand. Mok and Cheung (2011) suggested that higher education institutions boost their revenues by gaining advantage of government matching grants through acquiring more private donations, venturing into the market and entrepreneurship by conducting research projects for and with the business and industry sectors, as well as launching self-financing programs.

On the other hand, the new suppliers of higher education have had to rely on the private sector. By encouraging self-financing programs, the government did not have to undertake the burden of a heavy financial commitment. Still, the government contributed to funding for sub-degree programs indirectly. In February 2010, the Finance Committee of the Legislative Council approved an increase of HK$2,000 million in a commitment toward providing start-up loans to post-secondary education providers. Five additional land sites have also been earmarked for the development of college premises under the land grant scheme. These aim to facilitate the development of degree-awarding institutions that offer top-up degree programs (Chan 2012). The sub-degree sector is predominantly self-financing; however, some suggest that the government should step in when there are market inefficiencies or failures. For example, some institutions ask for an extension of the 10-year repayment period of government loans, as they have a greater financial burden to facilitate resources (Educational Bureau 2008).

7.3.4 Equity Matters

The equity issue here could be discussed in terms of the articulation between sub-degree and bachelor's degree programs in Hong Kong. Unlike U.S. community colleges, which have a large proportion of older students looking to obtain continuing education, Hong Kong's associate degree programs are primarily provided for secondary school-leavers at ages 17–19 (Kwok 2004). Only about 17 % of an age

Table 7.6 Higher education budget

	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Higher education budget/ government budget (%)	5.5	5.3	4.1	4.4	4.7	4.5	5.0
Higher education budget/ education budget (%)	24.1	23.2	17.1	22.0	23.4	24.1	24.3

Source: The University Grants Committee, http://cdcf.ugc.edu.hk/cdcf/searchStatSiteReport.do

group gain entry to one of the eight universities publicly funded in Hong Kong, and a substantial proportion of an age group fail to enter one of them in each year (Kember 2009) and they choose sub-degree programs as a second choice. Many sub-degree graduates want to continue further studies to compete with their peers who have completed bachelor degrees (Katherine et al. 2013). This is clear when we look at the number of transitioning sub-degree graduates. In 2005–2006, UGC-funded institutions provided 1,680 second-year placements in undergraduate courses for sub-degree graduates, a total that increased by less than 200, to around 1,900, by 2010–2011 (Katherine et al. 2013). Kember et al. (2010) argued that the elitism of publicly funded degrees is even reinforced with an increase of sub-degree programs, as educational opportunities in publicly funded universities are only allocated to the top secondary students who obtain the highest examination scores, and self-financing programs are considered a second choice to students.

In addition, students in self-financed programs have paid a much higher tuition fee than their counterparts in publicly funded bachelor's degree programs. Apparently, the value placed on education by Hong Kong households is enough to convince less academically gifted students to pay a higher fee for a semester at a community college than that paid for a semester at a university, even though an associate degree is less valued than a bachelor's degree in the job market (Postiglione 2008).

7.4 Conclusion

Higher education in Hong Kong has significantly expanded over the last two decades, and the system has been moving into the post-massification era. Drawing upon the literature and published data, we examined the developmental process over three historical periods by focusing on enrollment and government strategies. The results show that the massification of higher education in Hong Kong has relied to a large extent on self-financing sub-degree programs rather than publicly funded bachelors' degree programs. For example, as early as 1996, about 16–18 % of 17–20 year-olds were admitted to the first-degree publicly funded programs. Meanwhile, 46 % of the same age group entered local self-financed sub-degree programs (Information Services Department 2007). Since 2000, the government has been actively encouraging the private sector to contribute to the development of a self-financing post-secondary sector. It is meaningful regarding the expansion of higher education. In addition, this represents an important change in terms of the diversity of the higher education system in Hong Kong. Across most higher education systems, mainstream undergraduate education and post-graduate training have become comparatively less important, as other activities such as part-time study and the continuing education of mature professionals have become more important (Gibbons 1998).

However, Hong Kong is facing limited scope of higher education access to its generally high quality bachelor degree programs, while the quality of self-financed

programs for has become more of an issue. Thus, this paper raises concerns and challenges related to post-massification in Hong Kong in terms of quality, relevance, financial sources, and equity issues.

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Part II
Academics and Students in Mass Higher Education

Chapter 8
What Happened to Universal Education? In the West and in Asia

William K. Cummings and Katrina Santner

8.1 Introduction

Higher education once viewed as an elite privilege has become more widely experienced. The early leader in its expansion was the US where by the late 70s about 80 % of the high school graduating class was entering some form of tertiary institution, the Gross Enrollment Ratio (GER) was over 50 %, and, approximately 40 % of the college age cohort "attained" a degree. Canada and a few European countries were slightly behind the US in terms of these indicators of tertiary educational participation. In Asia, Japan was the leader with about 45 % of the late 70s high school cohort entering a tertiary institution, and nearly all who entered completed their degree program.

Reflecting on the elitist character of tertiary education systems, Trow (2005) predicted that most systems were destined to follow the US lead of expansion or massification, and he suggested that might entail:

- New students less prepared
- New students in search of practical education
- Not willing to pay full fare
- Shift from universities to teach only institutions
- So the growth of junior colleges, distance ed, etc.

And for the US and Japan he predicted continuing expansion towards Advanced Massification or even Universal Higher education.

This study will review what has happened since then, why, and what are the implications for the academy and for youth? Special attention will be devoted to the Asian experience.

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8.2 But What Has Happened?

At the time of Trow's projection, the Tertiary Gross Enrollment Ratio (TGER) was the preferred indicator of educational development (and it still is the indicator with the widest coverage). In terms of the TGER, both the US and Japan exhibit further massification between 1980 and 2005 (Table 8.1)—though both are outpaced by Korea and Finland. And several other systems are close (Sweden, New Zealand, Norway).

But some analysts prefer to focus on the proportion of the age group that actually completes an academic program—as contrasted to the proportion who simply enroll. In East Asia, most who start a program complete it. In contrast, in the US and many European countries only a fraction who enter a tertiary program complete it in a timely manner; indeed, a sizeable minority who begin a tertiary program never complete it. Reflecting this preference, tertiary educational participation can be measured by the % of an age cohort "attaining" tertiary education (that is, actually completing a certificate or degree program). Then the 55–64 age cohort in 2010 is roughly equivalent to the TGER80 group and the 25–34 age cohort is equivalent to the TGER05 group.

For many countries the TGER80 is similar to the 55–64 higher educational attainment indicator (e.g. for Japan 31 and 29 %, for Korea 13 and 13 %, for Finland 32 and 30 % respectively). The US represents a different pattern with a TGER80 of 53 % compared to a 55–64 educational attainment of 41 %; Canada, France, and Sweden share in this pattern.

Focusing on the trend of educational attainment over time, most countries report a steady increase. The US is a notable exception with no increase in the percent

Table 8.1 Tertiary GERS for 1980/2005 and per cent of population that has attained tertiary education (2010) by age groups

	TGER80	TGER05	25–34	35–44	45–54	55–64
US	53	82	42	43	40	41
Japan	31	55	57	50	46	29
Korea	13	94	65	47	27	13
Norway	25	79	47	41	33	27
Ireland	17	56	48	42	30	21
Russia	45	72	55	58	54	44
Canada	48	60	56	57	47	42
New Zeal.	26	81	46	42	39	34
United Kingdom	19	48	46	41	35	30
France	25	55	43	34	22	18
Israel	31	58	44	49	44	45
Sweden	36	82	42	37	30	27
Finland	32	92	39	46	39	30

Source: OECD Education at a Glance 2010, Table A1.3a; World Development Indicators

attaining a credential of educational attainment over the past 30+ years—that is with a steady 40–43 % level across the progressive age cohorts. The expansion in enrolment (or participation) in the US case is not accompanied by an expansion in attainment. Put differently, the US system has become significantly less efficient over time. Israel is another country with this trend.

For most countries, the increase in TGER has been accompanied by an increase in the percent attaining a credential of program completion. In a few cases the increases for the two indicators are about the same (Japan, Ireland, Russia, Canada, the UK, and France). For example, Japan experienced an increase of 24 % in TGER and an increase of 28 % of the cohort attaining a credential.[1] An equally common pattern is for both indicators to increase, but with the TGER increasing much more rapidly as in the cases of Korea, Norway, New Zealand, Sweden, and Finland.

8.3 Data Issues and Patterns

Moving beyond Asia, there are several anomalies of the data that need to be considered:

1. The old measures (% of high school grads going on and GER) were crude. OECD has collected more precise data—% of age cohort attaining a degree.
2. Some of the data may be misleading—e.g. the Japanese data probably neglected or undercounted tertiary type b.
3. Expansion involves both % change and volume change—which are we talking about?
   (a) In the case of the US, size of cohort increases making possible volume change while the cohort size is stable.
   (b) In the case of Japan, the size of the cohort actually decreases. So the cohort percent goes up, even though the number of youth attending colleges may go down.
4. Trow focused on Europe where baseline TGERs were in the 10–25 % range. But for Asia, 1980 baseline is often much lower—e.g. in China only 1.2 %. Still the rapid expansion in recent years is often thought of as Massification. Similarly today many African countries are going through rapid expansion from low baselines, and they refer to this as massification. So for many analysts the M concept may refer to the rate of expansion instead of the level of participation or attainment.

[1] Japan has experienced an increase in the percent of the cohort attaining a tertiary degree—but Japan has experienced a sharp decrease in the size of its youngest cohort so in terms of actual numbers Japanese enrolments have decreased.

8.4 A Note on Japan and the US

Unique features of these two countries labor markets and demographics help to explain why their enrollment and attainment rates have leveled off shy of universal education.

1. Human Resources. The US recognizes the importance of human resources for national development but also has experienced competition to use funds traditionally allocated to human resources for other purposes (e.g. welfare, health, defense, transportation). So there is an increased tendency to say higher education is a private good. But the public finds the costs to be high, so where market driven the demand for higher education has been somewhat dampened.
2. Major differences in college preparation. Major differences in college preparation of high schoolers—US youth have weak preparation. Program for International Student Assessment (PISA) data provide one illustration (Table 8.6 below). College may be a shock, leading to dropping out, at least for awhile. So the percent of US youth who attend and graduate from high school is high. The US percent of high schoolers who enter some kind of tertiary institution is also high. But a very large proportion of these entrants drop out in a few months to 1 year after entering.
3. Re-Entry. Students possibly drop back in at a later date—thus adding numbers to older cohorts.
4. Major differences in Institutional Retention. The norm is stricter in the US; a typical 4-year institution only expects 50 % of its entrants to graduate within the 4 year period.
5. Institutional openness to transfers. American institutions welcome quality transfers.
6. Differences in student loyalty. Student loyalty is weak in the US; students readily consider transferring if it will benefit their image or marketability (an illustration is sports transfers, but equally applies to academic transfers)
7. Differences in corporate acceptance of training by others. US employers actually place a positive value on student transfer to acquire new experience, but Japanese employers are skeptical of such behavior. Hence Japanese participation in tertiary is largely limited to the college days, whereas US participation is more diversified in time and place.

8.5 What About Other Asian Countries? (Table 8.2)

Excepting the Philippines, the Asian countries had modest TGERs in 1980 (Mongolia figures are doubtful). But since the 80s there has been explosive growth in South Korea and very rapid growth in Thailand, approaching the Japanese level.

Table 8.2 Tertiary GER for several Asian countries 1980 and 2005

Country	TGER05	TGER80
China	19.4	1.2
India	10.8	5
Indonesia	16.5	3.7
Korea	93.5	12.8
Malaysia	29.3	4.1
Mongolia	44.7	26.3
Philippines	27.5	24.2
Thailand	43.9	10.3
Vietnam	15.7	2.5

And there has been significant growth in many other Asian countries,. While the region is much poorer than Europe, higher education enrollment has caught up.

We conclude that many of the developments since the 70s concerning massification are surprising. In terms of specifics they are quite different from what Trow predicted—The US and Japan have been passed by other countries, Asia passes Europe. Still his arguments are stimulating and catch the main thrust—i.e. dramatic expansion over the past two decades.

8.6 Correlates of Massification

One way of thinking about the differences in the levels of massification is to examine the statistical association of indicators of massification (e.g. Tertiary Educational Attainment of those aged 25–34 and the Tertiary GER) with appropriate indicators of socioeconomic change. Table 8.3 presents some preliminary findings for a group of 57 countries (29 countries for educational attainment). The table suggests that the higher the economic level of a society, the higher is the percentage of youth enrolled in higher education. But the higher the population growth rate the lower is the tertiary enrollment rate. The higher the secondary enrollment rate and the higher the secondary level graduation rate the higher is the tertiary enrollment rate. The larger the private sector's share of total tertiary places, the higher is the percentage of youth enrolled in higher education. The greater the public expenditure on education and especially on research, the greater the enrollment and completion rates. Interestingly measures of economic globalization and of in-migration were not related to rates of tertiary enrollment or attainment.

These correlations invite more complex multiple regression analyses.

Table 8.3 Pearson correlations of socioeconomic indicators with two indicators of tertiary level participation

	Tertiary Ed attainment of those age 25–34	Tertiary GER 2005
GDP per capita	.432	.474
Population growth rate	−.279	−.597
Secondary GER	.501	.609
Graduation rate 05	.661	.760
% Tertiary enrollment in private sector	.283	.142
Public spending on education as % of GDP	.060	.360
Public spending on R&D as % of GDP	.439	.508

8.7 Some Consequences of Massification

Massification is now seen as inevitable. On the positive side it expands opportunities for eager youth. But the literature suggests it may have several negative correlates:

- Resources are spread thinner
- Class sizes increase
- Students are not as well prepared
- Instruction becomes mechanized
- Some faculty become teaching machines, with research being neglected

Are these suggested negative correlates true or false? Or are they somewhere in between, and if so why?

8.7.1 Concerning Resources

Table 8.4 suggests a possibility concerning resources. Of the ten countries included, in six cases the increase in student numbers is greater than the increase in number of faculty. But in four the opposite is true (that is the student-teacher ratio decreased with massification).

8.7.2 Concerning Student Preparation

A frequent assertion is that massification is associated with admitting increasing numbers of poorly prepared youth into higher education. Within particular countries this may be the case. But across countries, as illustrated in Table 8.5, the countries with the highest average academic achievement are the ones that have the highest levels of massification—in other words, a relation just the opposite of expectations.[2]

[2] The two columns have a high spearman rank order correlation of .65.

Table 8.4 Enrollment in total tertiary education, gross enrollment ratios, and teaching staff, 1992–2007

	1992			2007			% increase in	% increase in
Year	Total tertiary	GER	Teaching staff	Total tertiary	GER	Teaching staff	total tertiary	teaching staff
Australia	559,365	0.40	28,417	1,083,715	0.75	34,413	94	21
Hong Kong, China	85,214	0.19	5,978	194,236	0.42	10,500	128	76
Japan	2,899,143	0.30	286,166	4,032,625	0.59	515,732	39	80
Republic of Korea	1,761,775	0.40	77,458	3,208,591	0.96	201,851	82	161
Brazil	1,591,176	0.10	134,403	5,272,877	n.a.	367,638	231	174
Mexico	1,302,590	0.13	134,424	2,528,664	0.28	274,618	94	104
Germany	2,033,702	0.35	279,806	2,278,897	n.a.	295,447	12	6
Netherlands	493,563	0.42	41,217	590,121	0.62	44,632	20	8
United Kingdom	1,385,072	0.33	89,500	2,362,815	0.58	129,930	71	45
United States of America	14,360,965	0.78	826,000	17,758,870	0.86	1,310,453	24	59

Source: UNESCO. For Australia: Department of Education, Employment & Workplace Relations (and its antecedents). 'STAG1992' and 'STAG2007' Staff aggregated data sets

Notes: Mexico 1993 data, Mexico Teaching Staff for 1991, Germany 2007 Total Tertiary excludes ISCED Level 6 and hence GER 2007 (Levels 5&6) is not available, Germany Teaching Staff is for 1993. UNESCO does not provide statistics for Hong Kong, so we report estimates supplied by the Hong Kong research team. Australian figures include academic staff who only do research

Table 8.5 Extent of massification and 2003 math achievement among OECD countries

	% 25–34 years old with HE in 2010	Pisa 2003 math
Korea	65	542
Japan	57	534
Canada	56	532
Russia	55	
Ireland	48	503
Norway	47	495
New Zeal.	46	523
United Kingdom	46	
Australia	44	524
Israel	44	
France	43	
Sweden	42	509
US	42	483
Netherlands	41	538
Finland	39	544
Spain	39	485
Denmark	38	514
Poland	37	490
Iceland	36	515
Germany	26	503
Greece	26	445
Portugal	25	466
Mexico	22	385
Italy	21	466
Argentina	16	
Brazil	12	
China	6	

8.7.3 Faculty Teaching and Research

Yet another assumption is that massification leads to an increase in the academic workload of individual professors. This may be because greater effort is required to attract students, to retain them, to secure the revenues to support academic research. Or it may stem from the need to formalize and broaden the procedures used for measuring the performance of the individuals and units that make up the academic enterprise.

One insight on faculty work comes from the professors themselves. This is possible through using the CAP survey of 19 countries including Japan and the US—which we have been working on for the last 5 years.—in conjunction with a similar survey carried out in 1992.

The surveys give indications of what professors do and what they think about what they do. For the analysis below, we have divided the 19 countries into three

groups—the first called the elite group refers to those systems that still have low enrollment rates; at the other extreme is the advanced mass group where enrollment rates exceed 50 %; and finally there is the in-between or transitional group. The systems in these respective stages are as follows:

- Elite: Argentina, Brazil, Malaysia, Mexico, China, South Africa
- Transitional: Hong Kong, Finland, Germany, Italy, Netherlands, Portugal
- Mass: US, Canada, UK, Norway, Japan, Korea, Australia

Are there differences between professors who work in university systems that have reached the higher end of the mass stage compared to those in systems that are still essentially at the elite stage?

Work Load Our interest here is in differences in faculty load as systems approach or realize the mass stage of expansion—do the professors in systems at this stage work harder or differently when compared to professors at the elite stage or the transitional stage?

Actually at the undergraduate level, the professors in the elite systems have on average more students—though this is an average elevated by the large number reported for S. Africa. At the graduate level, professors in the advanced mass systems have the most students. They have a modest edge at the masters level, while at the doctoral the average for professors in the elite systems is 2.7 students compared to 5 in the transitional systems and 6 in the mass systems.

Concerning total hours of work per week, there also are modest differences: 39 h per week in the elite, 44 in transition, 45.7 in mass. For the systems at the elite stage, teaching gets the greatest allocation, whereas professors in the advanced mass stage spend as many hours on teaching as do those in the elite stage, but on top of that they spend more time on administration and on research. Hence the total is greater.

Perceptions of Teaching Tables 8.6 presents several indicators relating to the content of teaching, comparing the findings by the elite to mass stage (additionally given the Asia focus of this meeting we provide the country scores for CAP Asia countries). For example, the professors at all three stages of massification say they spend more time than they like teaching basic skills. Also all three groups note that they stress practical knowledge. What stands out in Table 8.6 is the perception by professors in the massified group that they are encouraged to improve their instructional skills.

Table 8.6 also presents several potential areas for improvement. Professors in the elite stage universities are as likely to use ICT or to provide some of their instruction via distance learning as are the professors in the mass systems. On the other hand, professors in the mass stage systems are more likely to provide individualized instruction and to devote more time to developing new materials for their courses as well as reviewing and improving the curriculum.

Research Expectations Whereas the expectations for teaching differ only modestly by stage, those for research are more dramatic. As illustrated in Table 8.7, professors in mass stage systems are much more likely to perceive pressure for high research productivity and particularly for research that is useful. While we have not

Table 8.6 Views and innovation on teaching

	Elite	Transition	Mass	Average	Japan	Korea	China	HK	Malaysia
Practically oriented	78	68	65	70	53	76	76	69	68
Spend more time than I like teaching basic skills	60	56	56	57	61	58	58	56	50
Encouraged to improve instructional skills	51	40	58	50	67	62	63	53	63
Individualized	70	63	77	70	77	56	69	78	72
Projects	46	48	46	47	25	45	24	59	78
ICT-based	37	25	27	29	31	7	31	29	49
Distance Ed	19	13	16	16	5	12	5	9	15
Develop new material	61	72	69	69	28	63	25	77	70
Curriculum development	54	55	59	56	25	49	38	62	68

Table 8.7 Expectations from research and other research items

	Elite	Transition	Mass	Average	Japan	Korea	China	HK	Malaysia
Expectation of research productivity	54	62	66	61	60	61	57	70	45
Expectation of useful research	43	52	55	50	54	49	49	60	40
Academics expected to raise external funds	53	76	75	65	78	59	48	76	55
Institution encourages commercially oriented research	37	38	41	39	27	31	42	34	65

provided the breakdown, these differences are especially evident in the top strata institutions of the mass stage.

To respond to these high expectations for research productivity, professors in the mass stage systems are more likely to report that they are expected to raise external funds (Table 8.7), though overall they are no more likely than professors in the elite and transitional systems to perceive that their institutions expect them to engage in commercially oriented research. Ironically professors in China are among those reporting the greatest pressure to engage in commercially oriented research.

8.7.4 Management

The major differences in the academic work of elite and mass systems seem to lie in the details. The numbers of hours that professors work are not that different nor is there a big difference in the allocation of time by function. However, within the respective functions there are interesting differences. Professors in the mass systems report greater pressure to improve their instruction by individualizing it and by updating the curriculum as well as the instructional materials. Especially concerning research productivity and funding, professors in the mass systems report a stronger feeling of managerial pressure.

Table 8.8 suggests that professors in the mass systems perceive more attention being devoted by managers to performance evaluation, both in the areas of teaching and research. Yet while managers devote more effort towards performance evaluation, the professors in the mass systems report that the communication is not as good. Being asked to do more and being evaluated on their compliance with these requests, yet not receiving clear explanations of what is expected, professors in the mass systems are more likely to report that their work is a source of considerable strain.

Also we computed a Spearman rank order correlation between tertiary educational attainment of 25–34 year olds and the % in the system who are experiencing considerable strain; the coefficient was a substantial .67.[3]

Still the main story seems to be that professors in mass systems have about the same reaction to their work as do professors at the elite stage—work content is broadly similar as is work satisfaction. So this leads us to question the doomsday predictions of some commentators on massification.

Table 8.8 Management pattern

	Elite	Transition	Mass	Average	Japan	Korea	China	HK	Malaysia
Performance orientation	49	38	57	48	45	17	60	64	57
Dept head active in research evaluation	41	50	49	47	31	20	35	26	50
Good communication	37	25	27	27	24	20	35	26	50
Work source of considerable strain	32	43	50	40	59	68	53	42	20

[3] In a separate analysis we compared work load and content by the types of coordinating systems in the respective national systems. Professors in systems with a market coordinating system were the most likely to experience considerable strain.

8.8 Conclusion

In the field of higher education, perhaps no topic gets as much attention as massification. Keeping our focus on the US and Japan, we have considered the general trends and then the reaction of professors to these trends. Massification, especially rapid massification, can create strains for the higher education enterprise—and for those teaching in this enterprise. Among the 19 countries included in the CAP survey, Korea has experienced the most rapid and radical massification and the Korean professoriate voice the highest incidence of strain. But overall the differences are not excessive. Mass higher education looks much the same as elite HE.

So how can HE maximize the benefits associated with massification and minimize the pain?

1. Foster collaborative relation between faculty and administration
2. Don't go too fast
3. Maintain good ratios between faculty and students
4. Restrain impulse to introduce too many curricular innovations—go about this deliberately and with adequate consultation with faculty
5. Limit emphasis on performance evaluations

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Chapter 9
Teaching and Curriculum Development in Mass and Universal Higher Education

Futao Huang

9.1 Introduction

Teaching and curriculum development play an important role in faculty members' academic life. Except for the few of faculty members from systems that have a stronger preference for research such as Germany and Japan, a majority of university professors are involved in teaching activities in such countries as Argentina, Brazil, China, and Mexico. The patterns, content, methods of instruction, and curriculum development in university education not only keep changing constantly over time, but also vary greatly according to different systems and countries. Martin Trow pointed out that the different phases of higher education are associated with different curricula and forms of instruction (Trow 2005).

Up to now, a great deal of research has been conducted on university academics' teaching activities and their role in curriculum development from various perspectives. For example, the international survey of the academic profession was implemented in 1992 across 14 countries and the international survey on the Changing Academic Profession (CAP) which was carried out in 2007 and 2008 in 19 systems have led to numerous follow-up studies (Huang 2013). Many earlier studies were concerned with key characteristics of academics' teaching activities in individual countries, but international and quantitative research into aspects of academics' teaching, their engagement in curriculum development, and features of curriculum development at mass and universal phases of higher education are rare. Little research has been undertaken on academics' involvement with university curriculum development, in particular the role academics play in the process, from en empirically based comparative perspective.

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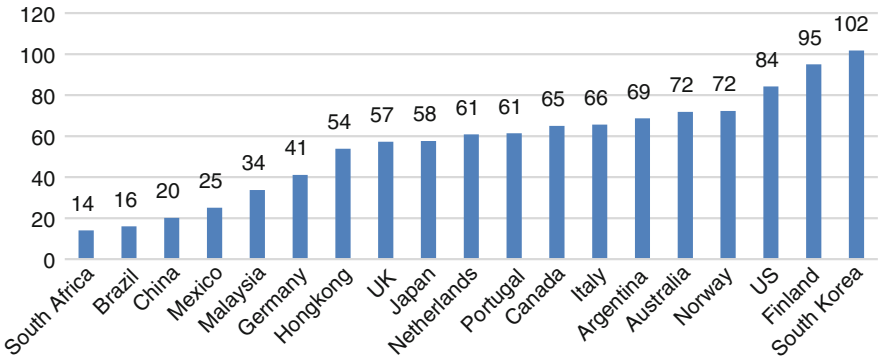
Table 9.1 Higher education enrollment rates across 19 systems



Sources: http://www.uis.unesco.org The German data is obtained from Education at a Glance OECD INDICATORS 2010 EDITION. World Bank's database World Development Indicators at http://www.worldbank.org/. The data of South Africa is provided by the CAP research team from South Africa

The CAP surveys give an indication of what professors do and what they think about what they do. For the analysis below, except for South Africa in which the enrollment rate is still below 15 % of its relevant age group, this study has divided the 18 participating teams into two groups—the first called the mass group refers to the academics working in higher education systems that achieved their enrollment rates over 15 % but below 50 %; the second group includes those from higher education systems where enrollment rates exceed 50 % and have moved into the phase of near universal access to universal higher education (Cummings and Santner 2013). As shown in Table 9.1, the higher education systems in these respective stages are as follows:

- Elite: South Africa
- Mass: Argentina, Brazil, Malaysia, Mexico, Germany
- Near Universal Access or Universal: Australia, Hong Kong, Finland, Germany, Italy, Netherlands, Portugal, US, Canada, UK, Norway, Japan, Korea.

9.2 Research Framework and Method

9.2.1 A Conceptual Framework

Taylor's basic principles about curriculum development and instruction, and Stark's new definition of curriculum are of relevance and significance to this study (Tayler 1949; Stark and Lattuca 1997). They are discussed extensively in the literature on teaching and curriculum development (e.g., Bobbit 1918; Dewey 1938; Dressel 1963; Evelyn 1996; Goodlad and Associates 1979; Goodlad and Su 1992; Haworth et al. 2002; Levin 1977). According to Taylor, the process of university curriculum development consists of four stages:

1. What educational purposes should the school seek to attain?
2. How can learning experiences be selected which are likely to be useful in attaining these objectives?
3. How can learning experiences be organized for effective instruction?
4. How can the effectiveness of learning experiences be evaluated?

Several scholars use 'plan' as a synonym for curriculum (Eisner 1979; Taba 1962). Stark and Lattuca (1997) use academic plan to describe the current state of affairs and introduce design when they wish to convey a revised and more intentional process that faculty members in any discipline might pursue after considering alternatives. Specially, they propose that the academic plan should include at least the following elements: purpose, content, sequence, learners, instructional processes, instructional resources, evaluation and adjustment (p. 10). Each of the seven elements of the plan implies an associated planning step as follows (pp. 15–16)

1. Purpose: Setting educational goals and objectives
2. Content: Selecting subject matter
3. Sequence: Organizing content appropriately
4. Learners: Considering characteristics, goals, and abilities of learners
5. Instructional resources: Selecting learning materials
6. Instructional processes: Selecting learning and teaching activities
7. Evaluation: Assessing student outcomes, and appraising learner and teacher satisfaction with the plan
8. Adjustment: Making improvements in both the plan and the planning process

Adopting Taylor's basic principles about curriculum development and instruction, and Stark and Lattuca's definition of academic plan, while utilizing relevant data from the CAP surveys, this chapter will address the following research question:

Are there differences in academics' teaching activities and their involvement in curriculum development comparing those from mass higher education systems with those from universal or near universal access to higher education systems?

Because of the limitation of the corresponding data from the CAP surveys in individual systems, and especially the fact that this study focuses on the discussion of key features of academics' teaching activities and their participation in and views of curriculum development, the study primarily deals with the following issues by modifying both Taylor's principles and basic elements consisting of academic plan which is illustrated by Stark and Lattuca (Fig. 9.1).

1. Purpose: because educational purpose data are lacking in the CAP surveys, the study discusses which actor has a primary influence on approving new academic programs.
2. Content: it addresses the issues of how academics engage in designing, selecting and providing teaching materials.
3. Instructional resources: it analyzes how the academics selected their teaching materials.

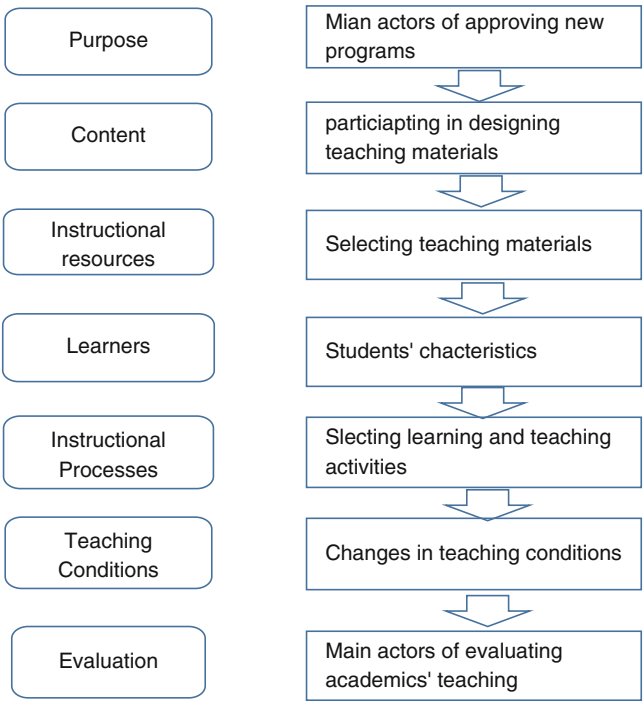


Fig. 9.1 Research framework on teaching and curriculum development (Source: Created by the author 2014)

4. Learners: it is mainly concerned with number of students taught on programs at different levels of study programs and how do academics view their students.
5. Instructional processes: it deals with major instructional methods employed by academics in their teaching activities.
6. Teaching conditions: it presents academics' perception of changes in teaching conditions,
7. Evaluation: it discusses which actor has the most powerful impact on teaching evaluations.

This chapter attempts to undertake a comparative research on major aspects of the academics' teaching activities and their role in curriculum development, as well as their perceptions on these activities between the mass higher education systems and the universal higher education systems based on major findings from the CAP surveys administered in 2007–2008. The chapter begins with a brief introduction to the research framework and methodology. Then it analyzes the similarities and differences in the academics' teaching activities and their involvement in curriculum development across two different phases of higher education systems. The chapter concludes by arguing that though differences could be found in some aspects of the curriculum and instructional methods, as well as the relationship between student and teacher while higher education shifts from mass phase to universal phase,

significant changes do not necessarily occur in all the aspects of academics' teaching and their role in curriculum development across the universal higher education systems and mass higher education systems.

9.2.2 Method

As noted previously, the CAP surveys were conducted in 18 countries and Hong Kong during the period 2007–2008. The common aim was to reach an "effective" sample of 800 professors in degree granting institutions. Some countries used mail surveys and other electronic means. It is required that response rates were at least 20 % (where an electronic survey technique was used, many mailings were blocked and hence response rates tended to be low). The characteristics of the samples of almost all the participating countries teams are available in existing publications (RIHE 2008). The descriptive characteristics of the respondents who work in the mass higher education systems and universal or near universal access to higher education systems are provided in Table 9.2.

By discipline, in the universal higher education systems, the largest proportion of the professors are from humanities and arts (14.9 %), followed by those from medical sciences, health related sciences, social services (13.6 %), and the third largest group is in the field of physical sciences, mathematics, computer sciences (13.3 %). In the mass higher education systems, academics from engineering, manufacturing and construction, architecture (19.8 %) account for the largest share of the total, the faculty members from physical sciences, mathematics, computer sciences are the second largest group (17.8 %), and the those from medical sciences, health related sciences, social services (10.0 %) constitute the third largest group of the total. Although there are many reasons behind the different dispositions of the faculty

Table 9.2 Discipline or field of current teaching (percent)

	Universal	Mass
Teacher training and education science	7.6	7.3
Humanities and arts	14.9	9.5
Social and behavioral sciences	12.1	5.1
Business and administration, economics	8.4	9.7
Law	2.7	2.6
Life sciences	6.6	4.6
Physical sciences, mathematics, computer sciences	13.3	17.8
Engineering, manufacturing and construction, architecture	12.0	19.8
Agriculture	3.4	2.1
Medical sciences, health related sciences, social services	13.6	10.0
Other	3.7	5.0
Not applicable	1.6	1.3

Source: From the CAP database in September 2011

members by discipline across the two different systems, in a relative term more percentage of the professors from the universal systems are involved in teaching educational activities of soft sciences: humanities and arts. In contrast, those work in the mass higher education systems undertake more teaching in hard sciences, e.g. engineering, manufacturing and construction, architecture. It is possible that a greater percentage of learners in humanities and arts are recruited into universal higher education systems compared to those in engineering, manufacturing and construction, architecture in mass higher education systems. This may be one of the learner characteristics in this study.

9.3 Results

Table 9.3 presents the average percentages for the academics who responded in terms of which actor has the primary influence on approving new academic programs at their institutions. In the universal higher education systems, 47.2 % reported that faculty committees/boards have the primary influence on approving new academic programs in their institutions, 26.0 % reported that their institutional managers have the primary influence. 16.8 % of respondents answered that academic unit mangers have primary influence, while in the mass higher education systems, 35.6 % reported their institutional managers have the primary influence, followed by those who believed that government or external stakeholders affected the approval of their new academic programs (29.3 %), and only 19.0 % of the academics indicated that faculty committees/boards have the primary influence on approving new academic programs.

Question At your institution, which actor has the primary influence on each of the following decisions?

Question During the current (or previous) academic year, have you been involved in any of the following teaching activities?

Although individual faculty members from either of the higher education systems may not have primary influence on approving new academic programs in their institutions in comparison with other actors, Table 9.4 reveals that over half of the academics from both higher education systems were involved in developing curricula and programs with more percentages of the academics from the universal

Table 9.3 Main actors in approving new program (percent)

	Universal	Mass
Government or external stakeholders	6.0	29.3
Institutional managers	26.0	35.6
Academic unit managers	16.8	14.5
Faculty committees/boards	47.2	19.0
Individual faculty	4.0	1.2
Students	0.1	0.0

Table 9.4 Academics' involvement with curriculum development

	Universal	Mass
Development of course material	74.0	48.0
Curriculum/program development	58.1	51.0

Table 9.5 Academics' positive views and activities about teaching (percent; responses 1 and 2)

	Universal	Mass
Practically oriented knowledge and skills are emphasized in your teaching	63.2	79.1
In Your courses you emphasize international perspectives or content	62.0	65.6
You incorporate discussions of values and ethics into your course content	58.3	67.5

Table 9.6 Average number of students taught on programs at different levels of study programs (means)

	Universal	Mass
Undergraduate programs	83.4	74.1
Master programs (*)	23.5	18.4
Doctoral programs	6.0	3.4
Continuing professional education programs	16.1	21.7
Other programs	14.1	14.2

systems. In terms of development of course material, a much larger proportion of the faculty members from the universal higher education systems were involved (74.0 %) compared to 48.0 % of the professors from the mass higher education systems.

Question Please indicate your views on the following: (**Scale of answer from 1 = Strongly agree to 5 = Strongly disagree**)

Table 9.5 shows that more than 60 % of the respondents from both systems reported that practically oriented knowledge and skills and international perspectives or content are emphasized in their teaching activities. 67.5 % of the academics from the mass higher education systems reported that they incorporate values and ethics into their teaching content, which is a higher percentage than those from the universal systems.

Question Please indicate the proportion of your teaching responsibilities during the current academic year that are devoted to instruction at each of these levels. (**number of students per course**) (*) **Please note**: **Master programs in Germany include long initial degree programs**.

As Table 9.6 suggests, in both systems the largest student group whom the academics taught are at the level of undergraduate programs, though the academics from the universal higher education systems taught more students at this level. In the universal systems, the second largest group of students whom the academics taught belong to the level of master programs (23.5 %). In the mass systems, they

Table 9.7 Types of instructional methods across countries involvement in types of teaching activities (percent; multiple responses)

	Universal	Mass
Classroom instruction/lecturing	96.5	96.5
Individualized instruction	73.8	70.3
Learning in projects/project groups	45.6	44.2
Practice instruction/laboratory work	48.8	56.1
ICT-based learning/computer-assisted learning	28.7	37.5
Distance education	16.1	10.0
Face-to-face interaction with students outside of class	80.8	73.2
Electronic communication (e-mail) with students	83.4	65.1

refer to students in continuing professional educational programs (21.7 %). The third largest group of students in the universal systems are those studying in continuing professional educational programs (16.1 %) compared to those students in master programs (18.4 %) in the mass systems.

Question During the current (or previous) academic year, have you been involved in any of the following teaching activities?

With respect to instructional methods, Table 9.7 shows that no significant differences were found in the academics' responses to classroom instruction/lecturing, individualized instruction, and learning in projects/project groups. On average, more than 96 % of all the respondents from the two systems agreed that they employed classroom instruction/lecturing in their teaching. The dominance of the traditional teaching strategy is evident and profound. However, the data also show that a larger percentage of the academics from the universal systems adopted electronic communications (e-mail) with students (83.4 %), face-to-face interaction with students outside of the classroom (80.8 %), and individualized instruction (73.8 %) as their major teaching methods in particular. In contrast, a larger percentage of the academics from the mass systems utilized practice instruction/laboratory work (56.1 %) and ICT-based learning/computer-assisted learning (37.5 %).

Question At this institution, how would you evaluate each of the following facilities, resources, or personnel you need to support your work? (**Scale of answers from 1 = Excellent to 5 = Poor**)

Table 9.8 shows that more than half of the academics from both systems made positive assessment of their institutions' support for their work in computer facilities and telecommunications. However, less than half of academics in the universal system had a positive assessment of classroom, laboratories, secretarial support and teaching support less than half of the academics from the mass system reported a positive assessment of technology for teaching, laboratories, library facilities and services, their office space, secretarial support, and teaching support staff for their work . In the universal systems, a larger percentage of the academics were satisfied with computer facilities, library facilities and services, their office space, and telecommunications. By contrast, a higher percentage of the academics from the mass

Table 9.8 Academics' positive assessment of institution's support for their work (percent; responses 1 and 2)

	Universal	Mass
Classrooms	48.8	53.8
Technology for teaching	51.2	49.3
Laboratories	36.5	41.2
Computer facilities	54.5	50.7
Library facilities and services	58.7	48.0
Your office space	52.8	43.5
Secretarial support	33.9	33.5
Telecommunications (Internet, networks, and telephones)	66.2	52.0
Teaching support staff	26.8	32.2

Table 9.9 Perceived changes in working conditions in higher education (percent; arithmetic mean)

	Universal	Mass
1 Very much improved	5.0	16.4
2	19.3	30.9
3	31.7	28.8
4	28.7	15.7
5 Very much deteriorated	15.1	8.5

systems had a positive assessment on their institution's support for their work in classrooms, laboratories, and teaching support staff.

Question B7 Since you started your career, have the overall working conditions in higher education and research institutes improved or declined? (Scale of answer from 1 = Very much improved to 5 = Very much deteriorated)

As shown in Table 9.9, although small percentages of the academics from both systems agreed that their working conditions had been very much improved, a much higher percentage of the academics from the mass higher education systems believed that their working conditions had improved. If their responses to "2" are included, nearly half of them (47.3 %) confirmed the improvement to their working conditions. By contrast, as high as 15.1 % of the academics from the universal systems stated that their working conditions had significantly deteriorated compared to only 8.5 % of the other academics.

Question E1 At your institution, which actor has the primary influence on each of the following decisions?

Table 9.10 shows that no significant differences could be identified in the academics' responses to the influence from academic unit managers on academics' teaching activities. From a comparative perspective, 24.5 % believed that their students had the primary influence on the evaluation of their teaching activities, followed by faculty committees/boards (24.2 %), and academic unit managers (22.8 %). In the mass systems, 27.1 % asserted that their institutional managers had primary influence on evaluating their teaching activities, followed by their academic unit managers (22.9 %), and then government or external stakeholders (20.1 %).

Table 9.10 Main actors of evaluating academics' teaching activities

	Universal	Mass
Government or external stakeholders	2.0	20.2
Institutional managers	16.1	27.1
Academic unit managers	22.8	22.9
Faculty committees/boards	24.2	16.9
Individual faculty	10.4	3.5
Students	24.5	10.0

9.4 Discussion

There are several noticeable differences in the academics' composition by discipline, their teaching activities and their involvement in curriculum development. To sum up, within the mass phase of higher education systems, the largest percentage of the academics are in engineering, manufacturing and construction, or architecture. Their institutional managers had the greatest influence on evaluating their teaching activities, and they emphasized practically oriented knowledge and skills in their teaching. They taught more students in continuing professional educational programs, employed more instructional methods of practice instruction/laboratory work and ICT-based learning/computer-assisted learning. Compared to the academics in the universal systems, they had a higher positive assessment of their classrooms, laboratories, and teaching support staff. They believed that their working conditions had been greatly improved. Similar to the approval of new academic programs, their institutional mangers exerted the most significant impact on evaluating their teaching. In contrast, in the universal systems, the largest percentage of the academics are from humanities and arts. Faculty committees/boards had the primary influence on approving new academic programs. They were more actively involved in curriculum development and taught more graduate students. More of them adopted electronic communications (e-mail) with students, face-to-face interaction with students outside of the classroom, and individualized instruction. Although a higher percentage of them had a positive assessment on computer facilities, library facilities and services, their office space, and telecommunications, they did not think their working conditions had been improved very much. In relation to evaluation, their students had the strongest influence on their teaching.

On the other hand, many similarities could also be identified between the academics coming from the different stages of higher education. For example, a majority of them engaged in curriculum development and teaching materials. Despite minor differences, they all incorporated a diverse range of materials into their teaching. They taught the largest percentage of undergraduate students and they organized learning experiences in the most traditional way: classroom instruction/lecturing. Over half of them appear to be satisfied with computer facilities and telecommunication.

9.5 Limitation

Curriculum development is a complex and changing process in which many actors, activities, and components are involved. Because the main purpose of the CAP international surveys is not focused on the role of academics in curriculum development, this study has certain limitations. First, as presented earlier, the research framework only deals with several stages or aspects of curriculum development. Issues concerning the educational purposes of particular universities, the extent to which these are attained are not addressed, and the information on learners is lacking. Second, due to the limited questions and data about curriculum development, this study can hardly provide in-depth information about the level of academic involvement with curriculum development. Third, even within each higher education system, there is a wide variety of higher education enrollment rates. For example, in the mass higher education systems, the higher education enrollment rate is Brazil is only 16 % of its relevant age group while in Germany it is as high as 41 %. Similarly, among the universal higher education systems, on one hand, the rate of higher education participation in Hong Kong is 54 %; and on the other hand, in South Korea it is as high as 102 %. These huge differences make it impossible to describe an accurate portrait of the academics' teaching activities and their engagement in curriculum development. Finally, with regard to the study of teaching and curriculum development, as the samples of the academics from two phases of higher education systems, especially those from the stage of mass higher education systems only include five countries, their characteristics may not apply to other countries or other regions.

9.6 Conclusion

This tentative study of the academics' teaching and their participation in curriculum development from the comparative perspective partly supports Trow's research on the changing character of the curriculum and the forms of instruction, as well as the relationships between student and teacher in particular while higher education moves from mass stage to universal or near universal access to higher education. As student numbers grew, the academics from the universal higher education admitted that they taught more students particularly at the level of undergraduate education. They tend to employ more diverse instructional methods like electronic communications (e-mail) with students, face-to-face interaction with students outside of the classroom, and individualized instruction. A higher percentage of them complained that their working conditions had deteriorated. Their students were the primary influence on evaluating their teaching activities.

However, the study also suggests that the differences between mass higher education and universal higher education are not quite so fundamental and are o not identified in every aspect of higher education. In other words, remarkable changes

do not necessarily happen to all the aspects of academics' teaching and their role in curriculum development with the advancement of higher education enrollment rates from the mass phase to the phase of universal or near universal access to higher education. As discussed earlier, in either phase of higher education, academics still play a key role in designing, selecting, and providing teaching materials in their teaching. A huge majority of them still use the traditional instructional methods.

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Chapter 10
Students in Mass Higher Education: What Has Changed and What Has Stayed the Same in the Massification of Japanese Higher Education

Kazunori Shima

10.1 Purposes of This Chapter

The transition from elite to mass to universal higher education as proposed by Trow (1974), has gained attention from higher education researchers worldwide. Even though there have been theoretical criticisms of the theory,[1] in reality the massification of higher education has occurred in many countries, although there are differences among various countries. This chapter will examine the massification of higher education in Japan, focusing upon: (1) students' learning attitudes and activities before entering universities; (2) students' learning and extracurricular activities after entering universities; and (3) students' (evaluation of university education) and (satisfaction with university life as a whole).

10.2 Macro Trends of Massification in Japan

The enrollment rate began increasing in the late 1950s, but stagnated from 1977 to 1990. Since then it has continued to increase to the present rate. The number of enrollments also increased since late 1950s, and stagnated from 1976 to 1985. After that, enrollments increased until around 2000 and again stagnated (Fig. 10.1).

The latter stagnation in the number of enrollments is a reflection of the decrease of 18–year-olds in the population which began in 1992. At the time of 1992, the number of 18 year olds was 2.05 million but by 2011 the number decreased down to

[1] Amano (1979), Kitamura (1986) and Arimoto (2003) examined Trow's theory from Japanese perspectives.

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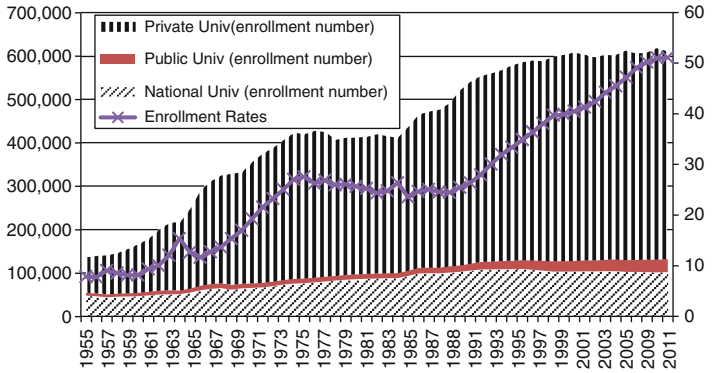

Fig. 10.1 Enrollment numbers and enrollments rates

only 1.20 million. On the other hand, the total enrollment quota of universities has increased since 1990s. In fact, it was around 473,000 in 1992 and increased to around 578,000 in 2011.[2] As a result, these opposing trends led to a second phase of massification in Japan in terms of enrollment rate. In this phase, entering universities, especially lower ranked ones, became much easier and many universities, especially local small, private universities could not enroll more students than permitted by their enrollment quota. In fact, 39.0 %[3] of private universities could not enroll the students permitted by their quota in 2011. In such sense, it can be argued that the second massification occurred during a time when there was an excess supply of university education.

Trow (1974) points out that there are 11 aspects of transition: (1) size of the system; (2) attitudes toward access; (3) functions of higher education; (4) the curriculum and forms of instruction; (5) the student career; (6) institutional diversity, characteristics, and boundaries; (7) the locus of power and decision making; (8) academic standards; (9) access and selection; (10) forms of academic administration; and (11) internal governance. He also describes and elaborates on the characteristics of the elite, mass, and universal systems. In Japan, there were some earlier studies which focused on massification. These are classified according to Trow's 11 aspects as follows: (1) size of the system (Amano (1975), Amano (1986), Yano (1989) Ichikawa (1995a, b), Maruyama (1995), Yoshimoto (1996), and Ito (1996) etc.)[4]; (2) attitudes toward access (no studies); (3) functions of higher education (Kobayashi (1996),

[2] http://www.shigaku.go.jp/files/nyuugakushigan_2011.pdf (The above was confirmed lastly on July 20th 2014).

[3] http://www.mext.go.jp/component/b_menu/shingi/giji/__icsFiles/afieldfile/2012/10/03/1326458_3.pdf (The above was confirmed lastly on July 20th 2014).

[4] Yano (1989) clarified the challenges for higher education in the massfication process, and Amano (1986) clarified the Japanese massificaton process focusing on women.

Nakamura (1996), Yamamoto (1996), etc.); (4) the curriculum and forms of instruction (Yoshida (1996)); (5) the student career (Kariya (1996) and Yuan (1996)); (6) institutional diversity, characteristics, and boundaries (Arai (1996) and Kaneko (1996)); (7) The locus of power and decision making (no studies); (8) academic standards (no studies); (9) access and selection (Nakamura (2008) and Yamamura (2008)); (10) forms of academic administration (no studies); and (11) internal governance (no studies). There have been studies relating to areas 2, 7, 8, 10, 11 but only those directly related to massification are presented here.

It is clear that there are a number of existing studies focusing on the size of the system, functions of higher education, the student career, and institutional diversity, characteristics, and boundaries. Building on this, the focus of this chapter is on (2) attitudes toward access, (4) the curriculum and forms of instruction, (8) academic standards, and (9) access and selection. This chapter does not address the locus of power and decision making, forms of academic administration, and internal governance. Simply stated, the main focus is on the educational side of massification in Japanese higher education.

10.3 Data, Approach and Framework of This Research

The data set of the "Japan University Students Survey" (JUSS) was produced by the Center for Research on University Management and Policy (CRUMP) at The University of Tokyo. This survey was conducted in January, April, and July, 2007. The data came from 48,233 students in 288 schools and 127 universities.

The following research approach is used to clarify massification in Japan (Fig. 10.2). First, universities are classified into four groups based on the

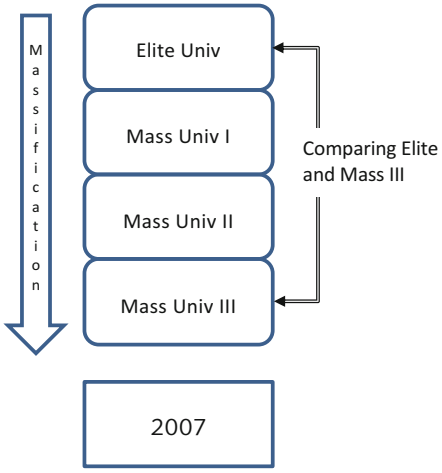

Fig. 10.2 Research approach

difficulty of matriculation[5]: Elite university (approximately the top 15 %), Mass universityI (approximately 15 ~ 50 %), Mass universityII (approximately Top 50 ~ 85 %) and Mass universityIII (approximately the bottom 15 %). Secondly, it is assumed that the elite university belongs to the elite stage and that the mass university belongs to the mass stage. The difference between them resulting from massification will be interpreted.

Figure 10.3 sets out the research framework and structure of this paper. The actual manifestations of massification are demonstrated by focusing on three elements. First, the learning attitudes and activities before entering universities are discussed in section 4. Second, the learning attitudes and activities after entering universities are presented in section 5. And third, the students' (education evaluation) and (satisfactions) are outlined in section 6. Additionally, section 4 is related to the (2) attitudes toward access and (9) access and selection which are parts of Trow's 11 transition elements, and section 5 is also related to (4) the curriculum and forms of education and (8) academic standards.

10.4 Students' Academic Preparation for University Education

This section considers the learning attitudes and activities of students prior to entering university, (1) learning achievements at third year of junior high school, (2) motivation to enter university at first year in high school, (3) learning time at third year in high school, (4) examination types to enter universities, and (5) parents' school background, comparing elite university and mass universityIII.

The numbers below are based on the ratio or average in terms of all university types, and elite university or mass universityIII. The differences between elite university and mass universityIII were tested using the Chi-square test or analysis of variance. All results were statistically significant except for one case. In many cases the differences between elite university and mass universityIII are statistically significant, even though the differences are very small, because of the large data size. Therefore in this paper, the author interprets and argues that there is a major difference in the case where the difference is more than approximately 20 %.

[5] I used "Hensachi" score as index of difficulty of entering each university. Hensachi of each university is an average of hensachi for all entrants. Hensachi of each university is computed like the below.

Hensachi of individual student = 50 + (or −) (individual test score − average test score)/(standard deviation of test score) ×10. If Hensachi is over 60, which means that his or her test score is in approximately top 15 %.

I used three cutting points of Hensachi of each university 60, 50, and 40 to classify four groups.

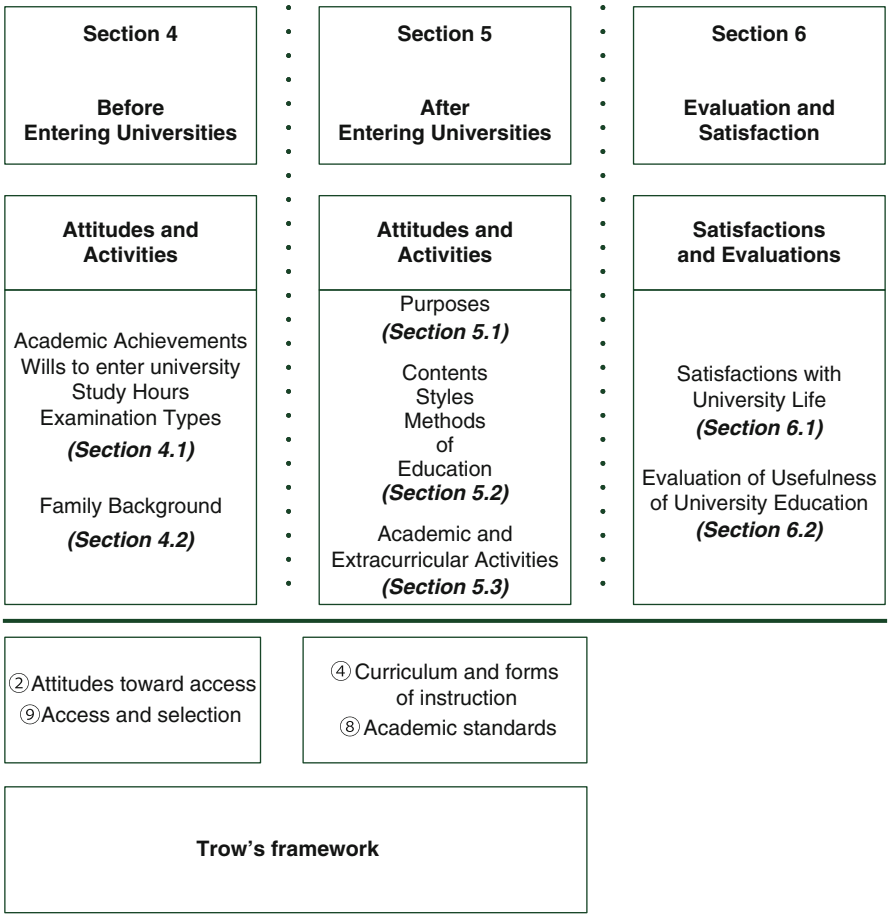

Fig. 10.3 Research framework

10.4.1 Learning Activities Before Entering Universities

The academic achievements at the third year of junior high school are summarized below. JUSS asked students to categorize their academic achievements according to five groups; top group, higher middle, middle, lower middle, and low group. The totals for all university types are: top group- 40.2 %; higher middle- 27.1 %; middle- 17.9 %; lower middle- 8.0 %; and low achieving group- 6.8 %. Even when enrollments rates reached almost 50 %, most students were from the higher middle group or above.

Among the elite university students, 65.8 % categorized themselves as the top group and 19.0 % as the higher middle. Only 10.4 % of mass universityIII students categorized themselves as the top group, 30.6 % as the Middle, 18.9 % as the lower middle, 20.4 % as the low group. Such result reflects that massification of Japanese higher education resulted from more lower achieving students entering into universities as a whole.

Students were asked what they wanted to do after high school graduation at the first year of high school. In terms of all university types, 80.5 % of the students responded that entering university was their priority. In addition, 1.2 % of students wished to enter junior college, 4.2 % for entering technical college, 3.6 % wanted to get a job after high school graduation and 10.4 % of students responded that they have no plan for the future. These numbers indicate that by the first year of high school, most of students have already decided to enroll at university. For elite universities, 91.5 % of the students have by this point decided to attend university. On the other hand, in the case of the mass universityIII, only 60.4 % have decided to enroll at university, 18.8 % have not yet determined what they will do after graduation, and 10.4 % have decided to work. In the process of massfication, a number of students who had not yet decided to enter university entered mass universityIII.

Irrespective of university type, the average time spent per day on learning at third year of high school was as follows: over 4 h – 35.3 %, around 3 h – 24.0 %, around 2 h – 17.3 %, around 1 h – 11.9 %, and Zero – 11.5 %. In other words, more than half university entrants averaged more than 3 h study per day. In fact, at elite universities, 77 % of students had studied more than 3 h daily at this point in their education. On the other hand, at mass universitiesIII, 73.3 % of the students had studied less than 3 h, and surprisingly 31.8 % of students reported they had not studied at any time. Massification resulted in about one-third of students not having studied at all when they entered mass universitiesIII.

Different types of entrance examinations are taken by students to enter university. For all university types, 73.4 % of entrants took the general examination[6] and 41.6 % took the examination for selected candidates.[7] At elite universities, 92.9 % took the general examination and only 12.5 % entered university after the examination for selected candidates. On the other hand, 70.5 % of the students who matriculated at mass universityIII, entered after the examination for selected candidates, and only 42.9 % took the general examination. In the massification process, more than half of the students who did not take any general examination entered mass universitiesIII.

10.4.2 Family Background

This section will clarify the parents' school background. In terms of the fathers' school background, for all university types, having attended graduate school was reported by 5.6 %, university by 50.4 %, junior college and technical college by 5.7 %, special vocational school by 4.0 %, and junior high or high school by 34.4 %. The father of more than half the university entrants graduated from university, and the second most common school background is Junior high or high school.

[6] General examination generally means examination based on the written tests.

[7] Examination for selected candidates basically do not require paper tests.

At elite universities, fathers of 74.7 % of the students had a university or graduate school background and 19.9 % reported to have attended at Junior high or High school. On the other hand, in mass universityIII, the figures were only 42.8 % for university or graduate school background and 42.3 % for junior high and high school background. In terms of mothers' school backgrounds, mothers of elite university students also had a higher school background than mothers of students in mass universitiesIII. In the massfication process, around half of students whose fathers and mothers had graduated from only junior or high school entered mass universityIII.

The above data suggest that in the process of massification, students with lower levels of academic achievement and who were not more likely to have clear opinions regarding entering university have in fact been enrolling. Similarly, more students who reported not studying harder, who did not take general examinations, and who were raised in families with lower school backgrounds, have been entering university. It is clear that those entering mass universitiesIII differ significantly from those entering elite universities.

10.5 Students' Attitudes and Activities After Entering University

10.5.1 Purpose of Learning

How have the students' purposes of university education changed in the process of massification? A specific question was asked about this, and the responses for all university types were as follows: 77.3 % thought that understanding knowledge of specialized area deeply is important or most important; 76.4 % thought that cultivating themselves broadly and getting various perspectives is important or most important; 74.3 % thought that developing ability for future job is important or most important. Only 50.9 % of the students responded that passing credential examinations or examination for public servants is important or most important. A comparison between elite universities and mass universitiesIII indicates there are not any major differences in terms of the purpose of university education. This means that students of elite and mass universityIII have similar purposes, even though their preparation for university education and family background are very different. The next section will discuss the results of the above different combinations between preparation for university education and purposes of elite and mass universityIII, which appear as learning activities and extra curricular activities.

10.5.2 Learning Activities and Extra Curricular Activities

Students' average days for attending university for 1 week in a semester are 4.69 days and the average attendance rate is 87.49 % for all university types. However, a comparison between elite university and mass universityIII reveals that

Table 10.1 Study time and extra curricular activity time

		Class and experiments	Preparation, review and assignment of class and experiments	Graduation research/ graduation thesis	Study not related to class and experiments	Club activities	Part time job/job
(1) All univ types	Average	16.89	5.90	8.16	3.91	4.61	8.50
	SD	9.991	6.434	10.920	6.143	7.109	9.236
	Case	44,121	43,823	20,039	43,453	43,738	43,824
(2) Elite univ	Average	17.94	6.05	10.05	4.47	6.44	6.66
	SD	10.035	6.258	12.250	6.583	7.803	7.700
	Case	10,974	10,900	4,301	10,836	10,920	10,917
(3) Mass univIII	Average	15.76	5.21	4.94	4.03	3.96	10.73
	SD	9.557	6.617	7.579	6.686	7.726	10.554
	Case	4,567	4,507	2,287	4,468	4,485	4,528
(2)-(3)Elite-massIII	Average	2.18	0.84	5.11	0.43	2.49	−4.07

elite university students' average days of attendance (4.81 days) is 0.36 day longer for 1 week than mass universityIII students (4.45 days). Also, elite university students' average attendance rates (86.75 %) is 1.16 % higher than mass universityIII students (84.41 %).

Focus upon hours of learning and extracurricular activities, for all university types, indicates that class and experiments take up 16.89 h; preparation, review and assignment of class and experiments receive 5.90 h; graduation research or graduation thesis accounts for 8.16 h; study not related to class and experiments amounts to 3.91 h; club activities 4.61 h; and part time job or job 8.50 h. The total sum of these is 47.97 h (Table 10.1).

Students in elite universities spend more hours on learning related activities than do those in mass universitiesIII. Additionally, club activities of elite universities students take more time than the ones of students in mass universitiesIII. On the other hand, Part-time Job or Job hours per week of mass universitiesIII is about 4 h longer than those in elite universities. This means that elite university students could focus on their learning and club activities, while students of mass universityIII students had to work, because of lower family support for their university education.

Students not well prepared for university education who have similar purposes of learning to students well prepared for university education are not well involved in academic activity and extra curricular activity in university. In the next section, I will show how mass universityIII educate their students in terms of styles, methods and content.

10.5.3 Education: Styles, Methods, and Content

Students were presented with different teaching styles and asked to indicate the percentage they had experienced of each. The five types are: large-sized lecture (more than 100 students); mid-sized lecture (50–100 students); small-sized lecture (less than 50 students); seminars; and experiments or practices. For all types of universities, the average percentage of those experiencing large sized lecture (more than 100 students) was 23.3 %; mid-sized lecture (50–100 students) 28.5 %; small-sized lecture (less than 50 students) 30.3 %; seminars 13.3 %; and experiments or practices 11.8 %. The responses confirmed an assumption that lectures are dominant teaching style in Japanese universities.

A comparison between elite university and mass universityIII indicates that there were no statistically significant differences between elite and mass universitiesIII in terms of teaching styles in the massification process.

In relation to methods of education, students were asked if they had experienced classes which included the following elements: (1) device for getting students' interest; (2) device for students' easy understanding; (3) supplemental instruction; (4) attaching greater importance to students' attendance; (5) midterm assignment; (6) giving back comments to students; (7) asking students' opinions or thoughts; and (8) group work. Using I often experienced and I sometimes experienced, the data for all university types for the eight categories above were: (1) 59.6 %; (2) 65.4 %; (3) 35.3 %; (4) 87.0 %; (5) 89.3 %; (6) 26.6 %; (7) 31.5 %; and (8) 38.4 % (Table 10.2).

These results show that (3) supplemental instruction (35.3 %), (6) giving back comments to students (26.6 %), (7) asking students' opinions or thoughts (35.1 %), and (8) group work (38.4 %) are not widely employed teaching methods in Japan.

A comparison between elite university and mass universityIII in terms of methods of education provides similar findings. Mass universitiesIII did not change their methods of education to respond to students who were not well prepared. A more detailed examination of these results provides a different

Table 10.2 Methods of education

Methods of education	All univ types (%)	Elite univ (%)	Mass univIII (%)
Device for getting students' interest	59.6	59.2	56.4
Device for students' easy understanding	65.4	64.2	61.8
Supplemental instruction	35.3	36.2	33.8
Attaching greater importance to students' attendance	87.0	81.6	91.7
Midterm assignment	89.3	86.1	85.7
Giving back comments to students	26.6	23.0	30.5
Asking students' opinions or thoughts	31.5	27.2	32.9
Group work	38.4	33.8	30.0

picture. The variable device for students' easy understanding was rated almost the same by students in elite university which accommodated students well prepared for university education, and students attending mass universityIII which did not accommodate well prepared students. This would suggest that mass universityIII must have made classes more understandable or set their educational quality lower for their students.

Students' experiences of freshman seminar, remedial education,[8] study skills,[9] career education, internship were classified by university type. In terms of all university types, the percentage of each class type experienced by students was career education (46.6 %); study skills (38.1 %); remedial education (29.7 %); internship (24.7 %); and freshman seminar (22.3 %). Less than half the students only experienced these non-traditional contents of curriculum.[10]

The contents of curricula which had more than 20 % difference between elite and mass universities were: study skills (39.4 %); career education (38.4 %); freshman seminar (26.6 %); and remedial education (19.1 %) From these figures, one can conclude that mass universitiesIII introduced these into their curricula more than did the elite universities. These differences represent one of the results of massification.

10.6 Students' Education Evaluation and Overall Satisfaction with University Life

10.6.1 Students' Overall Satisfaction with University Life

When asked to rate their level of satisfaction with the whole of university life, 72.4 % reported they were satisfied. Comparing the two types of universities, 79.3 % of elite university students were satisfied compared with only 60.2 % of mass universitiesIII students.

10.6.2 Students' Education Evaluation

Students' perceptions of class usefulness were measured in terms of nine elements: (1) knowledge and skills for future occupation; (2) knowledge and understanding of specialized area; (3) basic theoretical knowledge and understanding of specialized

[8] It is for students not well prepared for university education.

[9] It is for learning how to study.

[10] This data set includes first year to fourth (or sixth) year students. Some classes might not be expected to be taken by a certain year students, for example first year students, but for simplification I will not change the data set for individual questions through this analysis. In this meaning, specialized area might be important factor, but I will do the analysis focusing on specialized area in another publication in the near future.

area; (4) ability to write rationally; (5) ability to speak for easy understanding; (6) ability in a foreign language; (7) analytical and critical thinking; (8) ability to identify and solve problems; and (9) broad knowledge and wide perspectives. Students were asked to rank each element as either Not useful, Not very useful, Useful to some extent, or Useful.

Combining the two responses Useful and Useful to some extent we found the following results: (2) knowledge and understanding on specialized area is 71.5 %; (3) basic theoretical knowledge and understanding on specialized area 71.5 %; (9) broad knowledge and wide perspectives 61.6 %; (1) knowledge and skills for future occupation 60.5 %; (7) analytical and critical thinking 55.1 %; (8) ability to identify and solve problems 51.7 %; (4) ability to write rationally 43.3 %; (5) ability to speak for easy understanding 38.1 %; and (6) ability in a foreign language 36.7 %. When students evaluate their classes, they consider specialized education most highly, cultivating education as the next most useful, and vocational education the third. On the other hand, they consider their classes less helpful in developing their generic skills.

In comparing the results from elite university and mass universityIII, there are no items with a large (i.e. greater than 20 %) difference between them.[11]

This section leads one to conclude that elite university students rate their level of satisfaction with the whole of university life much higher than mass universityIII students, even though mass universityIII students' perceptions of class usefullness are as high as those of elite university students.

10.7 Conclusions and Implications

Figure 10.4 sets out the above findings.

As a result of massification in Japan, many students who had enrolled at a mass universityIII, had received lower academic achievements at the third year of junior high school; did not have a strong desire to enter university; studied for relatively few hours at the third year of high school; did not take the general examination; and were from families with a lower academic background. There were major differences between students of elite university and those of mass universityIII in terms of learning attitudes and activities before matriculation (Section 4).

In reviewing the findings on the purposes of university education, there are no major differences between students of elite university and those of mass universityIII (Section 5.1). This means that students of mass universityIII held similar views about the purpose of education but with different learning attitudes and engaging in different activities before entering university (Path A).

[11] In terms of basic theoretical knowledge and understanding on specialized area, elite university is 15.7 % greater than mass universityIII. In relation to ability to write rationally and ability to speak for easy understanding mass university is greater than the elite universities by 12.2 and 16.5 % respectively.

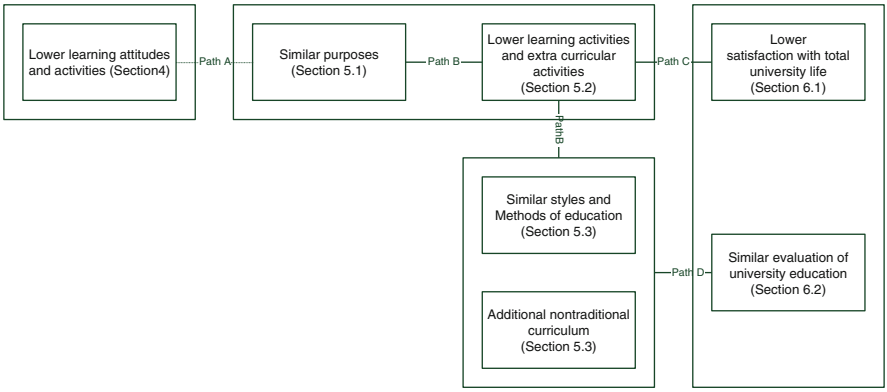

Fig. 10.4 Structure of findings about mass university III in comparison with elite university

In terms of styles and methods of education, there were no major differences between elite and mass universityIII, but mass universityIII is more likely to provide nontraditional curricular content, for example freshman seminar, career education and study skills (Section 5.3). Although mass universityIII provide these contents, students of mass universityIII were less likely to engage in learning and extracurricular activities and more likely to hold part or full time jobs than students in elite university per week, even though they have similar purposes (Section 5.2 & Path B).

In addition to that, in terms of student satisfaction with the whole of university life, mass universityIII students reported a lower level of satisfaction, than elite university reflecting their learning and extra-curricular activities (Section 6.1 & Path C). In terms of students' perceptions of the usefulness of university education, there were no major differences between students of elite university and mass universityIII, even though they reported different learning attitudes and activities before and after entering university (Section 6.2). This does not mean students of both university types reached the same level of learning outcomes in these nine respects, despite the differences in learning attitudes and activities before and after entering university. Rather, it suggests that they just felt the same way about the usefulness of their education. Even though a nontraditional curriculum might compensate for the differences in learning attitudes and activities before and after entering university to some extent (Section 6.2 and Path D).

In conclusion, massification in Japan has led to an increase in the number of students not well prepared for university education or from relatively poorer education backgrounds. Nevertheless, mass universityIII did not change in terms of styles of classes and methods of education to respond to those students now well prepared for university education. As a result, the level of learning activities and students' satisfaction with university life both decreased. This suggests that massification has led to a lowering of educational quality. Especially, decrease of learning and extracurricular time and increase of time of part or full time job are apparent and are very crucial problems for university education in Japan, which is well known for the less time of learning at university from international perspectives (Central Council for Education

2012). But this does not mean that universities have not responded to massification. In fact, universities have begun to provide nontraditional curricular content.

Japan's experience suggests the following are necessary in order to respond to massification, (1) government and university at first need to recognize that the massification are likely to worsen students' preparation for university education and it is very hard to maintain the quality of education. (2) Government and university need to adjust their level of university education to students not well prepared for university education and at least offer nontraditional curriculum for them. (3) University also needs to respond to their financial situations to permit them to engage with more learning and extra-curricular activities. (4) University needs to seek ways to innovate their styles and methods of education to let mass universityIII students engage more with learning and to give them same level of satisfaction with the university life in general as elite university students, even though this is not likely possible in Japan.

In this chapter, the author assumes the differences between elite university and mass universityIII are due to the result of massification. This might cause some problems understanding the manifestation of massification. However, there are no data available in Japan which captures the time series changes of the three aspects described above: (1) students' learning attitudes and activities before entering universities; (2) students' learning and extracurricular activities after entering universities; and (3) students' (evaluation of university education) and (satisfaction with university life) as a whole. The approach used in this research offers some significant meanings of understanding massification of higher education in Japan. However, this study did not analyze the differences among various academic disciplines, therefore future research needs to address more precise analyses that can also compare disciplinary aspects in massification of higher education in Japan.

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Chapter 11
Learning Ants: A Portrait of Chinese College Students in Mass Higher Education

Yan Luo

11.1 An Historical Glimpse of China's Move to Mass Higher Education

Like all non-Western cultures, China enjoyed a long tradition of higher learning institutions before it confronted the first wave of globalization in the nineteenth century and became the victim of western colonialism. September 2nd 1905 witnessed the abolition of the imperial civil service examination that had lasted for thirteen centuries and in its place the establishment of a national schooling system based on Western models. After the success of the Northern Expedition (北伐) led by the Kuomintang (KMT) in 1928, which led to the unification of China and the establishment of the Nanjing government, Chinese higher education flourished in a 'golden age'. The country had 116,504 college students enrolled in 205 modern higher education institutions when the Communist Party took over power in 1949, despite of the Sino-Japan war that had lasted for 7 years (1937–1945).

During Mao's era (1949–1976), all higher education institutions were brought under the jurisdication of the communist government, and the Soviet model was adopted to guide the restructuring of Chinese higher education system. As a result, the higher education system became overspecialized and departmentalized. Research, which had once been the main function of the university, was separated and housed in the institutes of the China Academy of Science and China Academy of Social Science. After the restructuration, China made its first attempt to expand the higher education sector in 1957. More than 1,060 new higher education institutions had established by far in 1960 compared to 229 in 1957, and the total enrollment had increased to 961,623 in 1960 from 441,181 in 1957. However this attempt

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Knowledge Studies in Higher Education 2, DOI 10.1007/978-3-319-12673-9_11

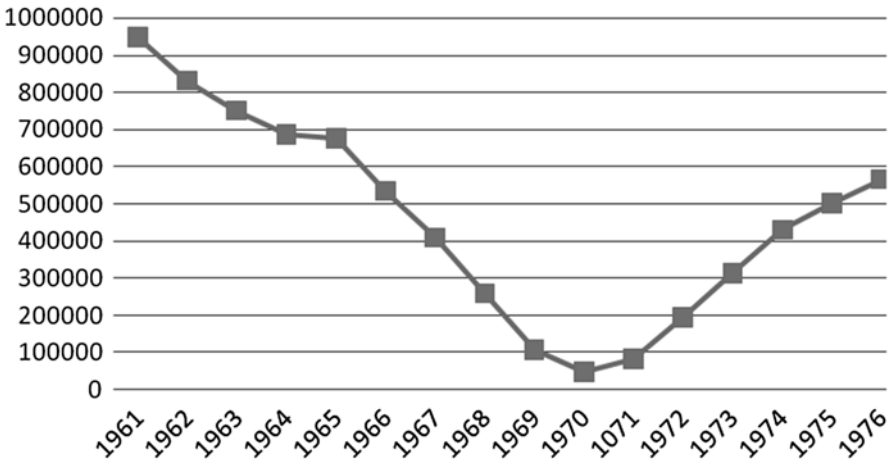

Fig. 11.1 Chinese higher education enrollment (1961–1976) (Source: *Thirty Years of National Education Statistics: 1949–1978*, p44)

to expand higher education proved to be a failure because of the economic crisis (1960–1962) and the political turbulence that followed, in particular the Cultural Revolution (1966–1976). Both the number of higher education institutes and enrolled students declined dramatically. Enrollments were at their lowest ever with only 47,815 in 1970, which was 41 % of the 1949 figure at the founding of the People's Republic. Despite the trend of increasing enrollment since 1971, the number of enrolled students was recorded at 500,993 in 1976, 59 % of the figure in 1960 when Chinese higher education was at its peak in Mao's era (Fig. 11.1).

With the end of Mao's era in the late 1970s, China restored its higher education system and initiated educational reforms along with the move towards economic globalization, which is characterized by its reforms on the redistributed economy and the 'open policy' integrating global capital into its national economy system (Luo 2007). A "user-pays" system was formulated and implemented, along with the restructuring of higher education institutions around 'marketization', with the emphasis placed on efficiency and accountability. Both universities and local governments regained their autonomy, allowing the former to mobilize resources from the market and the latter to manage its higher education system according to the needs of local economy (Bai 2006). After the reforms were successfully implemented across the country, China made another attempt at expanding its higher education system.

Unlike the efforts in 1957–1960, this round of expansion proved to be sustainable, underpinned by the increase in tuition fees that proved to make the major part of students' learning cost. It's turned out that the total enrolment of college students reached 33.25 million in 2012, 8.9 times higher than that of 1997 (3.35 million). In other words, the size of Chinese higher education had on average doubled every 2 years during this time period. With the largest higher education system in the

world, China announced that such expansion would continue to 2020, when the gross enrollment rate of Chinese higher education is predicted to reach 40 %. According to Trow's distinction between elite, mass, and universal higher education – a higher education system where more than 50 % of the population or age grade participates is considered a universal system, between 16 and 50 % is a mass system, and up to 15 % is an elite one (Trow 1970). By 2002, China had entered the stage of mass higher education when the gross enrollment rate had reached 16 %.

Trow argued that the difference between elite, mass, and universal higher education systems lies in the ways in which the higher education system associates with different kinds of knowledge and how such knowledge was implicated in social power. For instance, the purpose of an elite higher education system was to prepare social elites, and consequently the institutions were small-sized with clear boundaries marking the academic community off from the public. In contrast, the purpose of a mass higher education system was to transmit knowledge and skills, preparing the segment of population for a broader range of roles in technical and economic development. As for a universal system, participation in higher education was an expression of human rights, since individuals had to survive an employment environment driven by rapid knowledge and social changes making university education a must (Trow 1970).

The expansion of higher education brings significant changes beyond an increase in enrollment. Most of all, it changes the composition of the college students, resulting in the purpose of education being tuned to the expectations of a wider student population. With the repositioning of educational purpose, teaching activities in colleges change in terms of class size, learning content, and student-faculty interactions. This article, which is a case study of higher education in China, will take a closer look at these fundamental changes. The author will answer the following questions: in mass higher education, who participate in Chinese universities? What do they learn, and through what experience? And what is their employment situation after graduation?

11.2 Who Participates in Chinese Mass Higher Education?

The data presented here are taken from the Chinese College Student Survey (CCSS) undertaken by Tsinghua University. Using the same theoretical framework as the National Survey of Student Engagement (NSSE) of the United States, the Chinese College Student Survey involved 27 higher education institutions in China in 2009, 47 higher education institutions in 2010, 59 in 2011 and 2012, and 73 in 2013. Applying stratified sampling to higher education institutions and random sampling to students within each institution, CCSS obtained representative samples with a total number of 357,716.

According to the CCSS conducted in 2013, 76 % of Chinese college students were the first-generation college students in their families. Considering that each

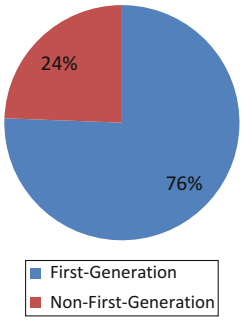

Fig. 11.2 Proportion of first-generation and non-first generation college students in China, year 2013

Chinese family has 1.45 children on average, this means that approximately 4.3 million families celebrate their first family member entering college each year. This is a great achievement, particularly in a Confucian culture where a university degree provides the cultural and psychological basis for an individual to escape the social structural constraints upon his or her capacity to understand and interrogate the world. In another word, for these college students and their families, entering college means freedom of thinking (Fig. 11.2).

According to CCSS, 63.3 % of the enrolled college students in China are from rural households. When students' social economic status is taken into account, data show that 18.1 % of the enrolled college students come from socially advantaged families, 63.5 % from middle-level classes, and 18.4 % from the bottom classes. Chunling Li, a well-known Chinese sociologist discovered that the expansion of Chinese higher education had contributed to the equity of college entrance in a quantitative way though the chances of disadvantaged social groups entering top-quality higher education institutions in China shrank (Li 2010). Examining the family background of college students at Peking University, Yunshan Liu (2009) revealed that students whose parent(s) held a status of cadre (elites in the Communist Party) accounted for more than 50 % of the enrolled students in Peking University during the period of 1978–2005. Although students from families of rural households accounted for nearly 40 % during late 1980s, their numbers have progressively declined since the 1990s (Liu 2009). The latest available data for Peking University is 14.2 % in 2013.

An interesting finding is that females benefited most from the expansion of Chinese higher education. In 2010, 50.6 % of the enrolled Chinese college students were female.[1] It's revealed that females in China have a better chance of entering college than males do. While this statistics might support the argument that Chinese higher education expansion promoted gender equity in China, it is complicated by the differentiation between females from urban families and those from rural families. Although the proportion of females from urban families increased significantly,

[1] *Educational Statistics Yearbook of China 2010*, Beijing: People's Educational Press (September of 2011). p23.

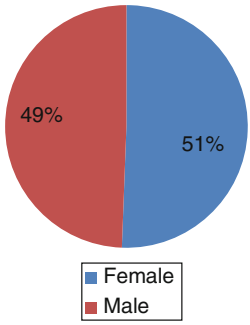

Fig. 11.3 Proportion of female and male college students in China, year 2010

the proportion from rural families declined steadily. Rural females are the most disadvantaged group in accessing top-quality universities in China (Li 2010) (Fig. 11.3).

Mass higher education in China has opened up education to significantly higher numbers of students from less advantaged social groups, such as female students from rural and cultural-deprived families. However these social disadvantaged groups are excluded from the top-quality higher education institutions. In one way, they have become the victims of mass higher education in China, paying higher rates of tuition for much lower quality higher education following the implementation of the national users-pay system (Luo and yang 2011).

11.3 Are the College Students Well Prepared?

The data presented here are from the Survey of Freshmen of Beijing Higher Education Institutions (SFBHEI) conducted by Peking University in 2011. It involved 28 higher education institutions in Beijing, with a representative sample of 4,244 students.

Students reported that they averaged 8.6 h each day attending their courses in high school. On top of this, they averaged 3.7 extra hours per day on course-related learning, in most cases for homework or other types of academic exercises, and 13.3 h per week on private tutoring. In addition, they still need to spend 11 h per week on non-academic learning, such as sports and art. Those preparing for academic competitions, generally in mathematics and sciences, spend 2.8 h per week on the special courses or learning outside of formal schooling (Fig. 11.4).

In Summary, Chinese high school students average 15.9 h per day on their course and course-related learning as well as other types of learning activities, preparing to access higher education. This is an alarming statistic for it means that Chinese high school students spend almost all of their time on learning except for the 8 h of sleeping, and that is for every day! Like working ants, Chinese students are 'Learning Ants' – they live for learning.

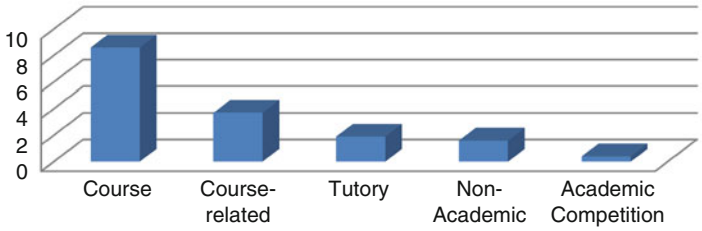

Fig. 11.4 Students' learning hours in high school per day, SFBHEI (2011)

Studies conducted by American scholars have demonstrated that students' academic performance in high school predicts their grades in college. Those who had a high level of academic engagement in high school tend to have a high level of academic engagement in higher education (Pike and Saupe 2002). This is also true for Chinese students. Students who enrolled in science and engineering, who more frequently interacted with teachers, and who had participated in various academic competitions during their high school years were more engaged in academic learning during their college years. The study also found that students' learning habits had a significant influence on their academic performance in college (Yang 2014).

11.4 Students' College Learning Experiences

Students' learning experience has always been a "black box" not only to the public but also to policy-makers. It is generally believed that since it is difficult to uncover the dynamics of students' learning activities it makes more sense to measure students' learning outcomes instead. This might be true for the Chinese, but during the past decades the emphasis has been on the other end – the input of teaching resources provided by institutions. It is believed that the quality of college students' learning cannot be guaranteed unless the institutions provide them with sound educational resources on campus. However, both institutional inputs and students' learning outcomes are hardly to be improved in a short period. This is especially true in the context of Chinese higher education system the level of students can be recruited, how high tuition fees can be set and the amount of financial support provided by the central and the provincial governments are all leveraged by government policies. So, if there is a place that institutions can exercise some autonomy, it would be educational practices.

The Chinese College Student Survey (CCSS) was designed to uncover and measure the elements of college teaching and learning, with the purpose of diagnosing

problems and improving practices. Using the survey results from CCSS and NSSE, I will discuss the learning behaviors of Chinese college students by comparing them with their American counterparts.

11.4.1 Level of Academic Challenges

Level of Academic Challenges is a measure of how demanding is the learning tasks required by educational institutions. It includes three sub-dimensions: cognitive objectives of the curricula, the tasks of course-related reading and writing, and the time that students spend on their academic learning.

Data from CCSS and NSSE shows that Chinese research universities do not perform to the same standard as the American universities on the four cognitive objectives of their curricula analysis, synthesis, judgment and application. The courses provided by Chinese research universities tend to emphasize the learning of knowledge rather than encourage students to develop their own viewpoints. That is why writing is less emphasized in Chinese research universities than reading. Despite of the curriculum gap between Chinese and American universities, Chinese college students spend much more time on their out of class academic learning than American students. 23.6 % of students in Chinese research universities reported they spent more than 30 h per week on out of class learning (Fig. 11.5).

A similar pattern exists in the second tier (local comprehensive universities) and third tier (local polytechnic universities and colleges) of Chinese higher education institutions. Although both of the types scored lower on the Level of Academic Challenge compared to the top national research universities, the differences are of no statistical significance.

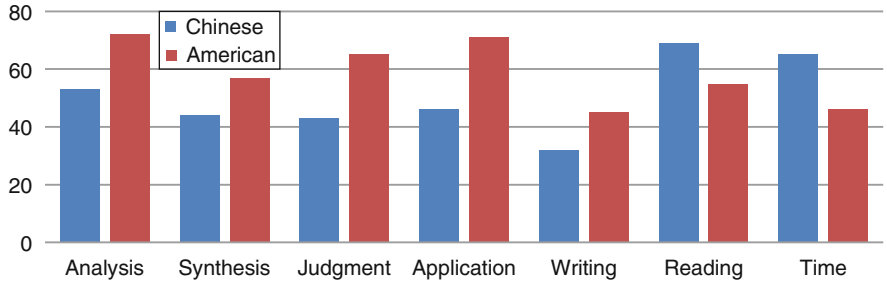

Fig. 11.5 Comparing Chinese Research Universities with American parallels on the level of academic challenges, CCSS& NSSE (2009)

11.4.2 Student-Faculty Interaction

Student-Faculty Interaction is a key indicator in measuring college teaching and learning behaviors. This indicator measures how often: students participate in faculty research projects, they discuss course-related perspectives or problems with a faculty member, faculty members give feedback on students' academic performance, students discuss their career plans with faculty members, and students discuss grades with faculty members. The survey shows that more Chinese undergraduate students have been involved in research projects conducted by faculty members than Americans students do. However, 75.1 % Chinese college students reported they had never discussed grades with their faculty members whereas only 7 % American students reported this. 50.2 % Chinese college students reported they had never discussed career plans with any faculty member, while only 21 % American students reported not doing so. When asked about feedback on their academic performance 35.6 % Chinese college students said they had never been given feedback compared with only 7 % of the American students reported so.

The gap between Chinese and American universities in relation to student-faculty interaction may help to explain the gap in quality between the two systems. However, one needs to treat these data with care for the gap could also be attributed to cultural differences. China is a country with a cultural heritage of Confucianism. As a set of ethical-sociopolitical doctrines, Confucianism builds social order through socializing authoritative role relationships in society. The Chinese teacher-student relationship, modeled after the father-son relationship which is governed by the ethic of filial piety, is characterized by status disparity, affective distance, and unidirectional communication from teacher to student (Ho et al. 2001). Chinese college students seldom discuss, ask questions, or make presentation in class but do devote enormous amounts of time to course-related study outside of class. Very few Chinese faculty members give feedback to students on their academic performance as it is understood that both classes and grades are under their jurisdiction.

11.4.3 Enriching Educational Experience

The indicator Enriching Educational Experience reveals how high-impact educational practices influence college students' development. It is comprised of items such as practicum or internship, studying abroad, culminating senior experience (capstone course or academic competition), foreign language coursework, community service, working on a research project with a faculty member outside of course or program requirement, and participating in a learning community. Data from CCSS and NSSE show that contrary to the impression that Chinese higher education is monotonous there is no significant difference between Chinese and American college students on this indicator. More than 10 % of Chinese students enrolled in the top national research universities said that they had studied abroad,

approximately 20 % reported that they had participated in academic competitions during their college years, and 50 % had experienced internship or practicum.

11.4.4 Supportive Institutional Environment

Supportive Institutional Environment comprises three sub-dimensions of measurement: institutional support for students' academic learning; institutional support in the form of financial aid; and institutional support for inter-personal relationships, particularly student-student relationships, student-faculty relationships, student-staff relationships and student-administrator relationships. Data from CCSS and NSSE show that Chinese scored higher than the Americans in all three sub-dimensions, but the differences are of no statistical significance.

To conclude this part, Chinese college students are not satisfied with the curricula provided by their institutions, because the courses that require more reading than writing are not challenging enough. Since Chinese college students view faculty members as authoritative figures, they seldom interact with faculty either in class or outside of class, and few students seek advice from faculty on their future career plans. These does not mean that Chinese college students are passive learners. On the contrary, they are actively engaged with their learning. First of all, they are hard-workers, interacting actively with their peer students both in terms of academic learning and personal development. Furthermore, they take advantage of many opportunities to enhance their development, studying foreign languages, obtaining credentials, entering academic competitions, and undertaking community service and internships. A high proportion of Chinese college students falls into the category of learners with self-authorship, the capacity of internally define a coherent identity that coordinates engagement with their relations with the context of universities (Baxter Magolda 2008). For top national research universities in China, such type of students accounts for 38 % of the whole population of college students. Even for local colleges and universities, which make the third tier of Chinese higher education institutions, this category has made approximately 24 % of the student population (Bao 2009).

In the following section, I will present data on the performance of Chinese college students in relation to employment as a learning outcome.

11.5 Student Employment

The data collected through CCSS in 2010 show that 68 % of Chinese college students sought employment that year, and 72 % of them successfully contracted themselves with employers with an average starting salary of 2,153 RMB. Only 3 % of the college graduates reported that their start salaries were more than 5,000 RMB. The lowest salary level was reported as 500 RMB, far below the salary of

Chinese peasant labors, which is 1,670 RMB on average. The survey data also show that of the 50 % of the graduate students who chose to work in eastern China, 25 % chose a cosmopolis such as Beijing, Shanghai, Guangzhou or Shenzhen with an average starting salary of 2,529 RMB, which is 27 % more than those of the other areas. The average salary for western China is 2,048 RMB, which is higher than that of middle China. This seems to prove the phenomenon of 'Central Fall'.[2]

Sixty percent of the CCSS sample of 2010 reported that their ideal employers are governments and state-owned enterprises. It is no surprise that college students do not favor foreign-owned enterprises as in the 1990s. Although 4 % of the graduates finally chose self-employment, 18 % of the surveyed students expressed a desire to do this. Chinese private enterprises are the least favored employer for college graduates. However, data show that 37 % of the college graduates accepted employment with Chinese private enterprises. If this is combined with the 36 % who contracted with state-owned enterprises, the proportion of Chinese college graduates who joined the enterprise sector is 73 % (Fig. 11.6).

The salary of those who were employed in the field of transportation is 3,067 RMB on average. This was ranked at the top of the all fields. Information technology came next, with an average salary of 2,588 RMB. Cultural Media and Sports came in the third, at 2,416 RMB, followed by electricity at 2,377 RMB. The salary provided by the employers in finance and manufacturing is 2,312 RMB, above the average of all fields. It is discouraging to note that education and health came in last with an average starting salary of less than 2,000 RMB.

A study conducted by the Tsinghua research team revealed that the GPA obtained by college students during their college years does not correlate with their employment status and salary level. The start salary of those whose GPA was ranked in the top 20 % in their class proved to be 10 % lower than the average salary level. The

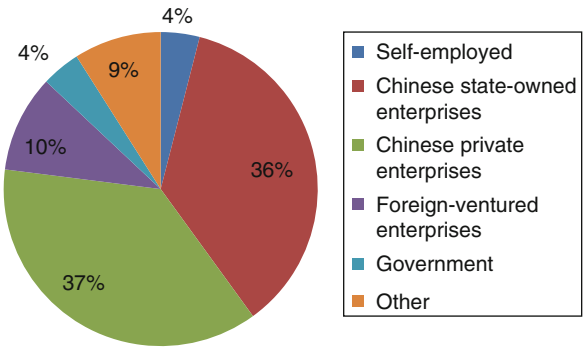

Fig. 11.6 Proportion of the employers Chinese college students contracted with, CCSS 2010

[2] Chinese government released a document entitled '*Action Plan to Accelerate the Rise-up of Central China*' in September 23 of 2009, in which the phenomenon of 'Central Fall' was defined and illustrated.

experience of internship or practicum made no contribution to students' employment and salary. On the contrary, the salary of those who had never worked part-time during their college years is 10 % higher than those who did. The only two factors which contributed to a higher salary are: (1) English proficiency; and (2) the social networking. Students whose English grades ranked in the top 20 % in the national test of Level Four reported a start salary of 2,516 RMB, 18 % higher than the average (Li et al. 2012).

11.6 Summary and Conclusion

This chapter reviewed the survey results conducted by Tsinghua University and Peking University in China, providing a portrait of Chinese college learners in mass higher education. It seems that Chinese college students are well prepared for their academic learning during their high school years. They spend almost all of their time on studying for the National College Entrance Examination, and competing for the enrollment of the first-tier of Chinese higher education institutions that are usually national research-intensive ones. After entering college, they are active learners, despite the inadequate quality of the courses. They work harder than their American counterparts do. Although their relationship with faculty members is characterized by status disparity, affective distance, and unidirectional communication from teacher to student, they have developed a very active interaction with their peer students. Furthermore, they make use of many opportunities to enhance their self-development: studying foreign languages, obtaining credentials, challenging themselves through academic competitions, doing community service and internships. A high proportion of them are learners with self-authorship. However, given with the time and energy that Chinese college students devote to their study, the economic return is poor. Starting salary are very low and they have an uncertain career future. Whereas once they were the elite, Chinese university students are fast becoming the economic equivalent of Chinese peasant labors.

The expansion of Chinese higher education is unlikely to stop in the foreseeable future. This puzzles observers in other cultures, as it appears irrational to invest heavily in money, time, and energy while knowing that the reward is very poor! In fact, the cultural heritage of Confucianism which holds a strong belief in the power of knowledge has sustained this rapid expansion in China – Chinese parents have not only paid the enormous tuition fees, but have housed and supported their children after graduation. They even use their networks to attempt to find employment for their children.

Like a colony of ants, Chinese college students live with a culture of collectiveness. They spent their study lives mostly together with their peer student groups. After graduation, they move into tough job markets, supported by their families and the family networks. As learners, they spend most of their time in learning; when they gain employment, work occupies the major part of their lives. Just as a Tsinghua student said, "I have worked too hard to think". There is a voice saying that higher

education institutions should provide their students with *hard* knowledge and skills, and the curriculum should move away from rote learning in favor of teaching them to think. This voice becomes more and more discernable in China.

Even have to live like ants, Chinese college students wish they could be creative.

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Chapter 12
Students in Mass Higher Education: Effects of Student Engagement in Taiwan

Dian-Fu Chang

12.1 Issue of Mass Higher Education

Higher education has been characterized as an important economic factor that produces human capital and innovative knowledge (Johnes 2006). However, systematic over-education has become an issue that must be faced. Over the past decades, the numbers of institutions, students, and the gross enrollment rates have risen to new heights in Taiwan. Typically, higher education institutions include 2-year junior colleges, 5-year colleges, and universities. As in most countries, the study period is 4 years for an undergraduate university degree, 1–4 years for a master degree, and 2–7 years for a doctoral degree. In 1950, there was only one university, three colleges, and three junior colleges in the higher education system, and only three graduate schools in the university. These schools admitted 6,665 students. Strong economic growth has driven the demand for technical talents in Taiwan. The government has made considerable effort to establish public institutions of higher learning and has eased restrictions on the establishment of private ones (Ministry of Education 2013a).

Newly founded public and private colleges, and other institutions of higher education have been increasing in both public and private sectors since 1974. During the last three decades, the capacity of Taiwan's higher education has expanded rapidly. In academic year 2012, there were 162 universities and colleges, including 120 universities, 28 independent colleges, and 14 junior colleges. The popularization of education has led to a rapid increase in student enrollment, although the figure has leveled off in the last decade. The number of students has increased from 358,000 in 1974 to 1,355,290 in 2013, an almost four-fold expansion

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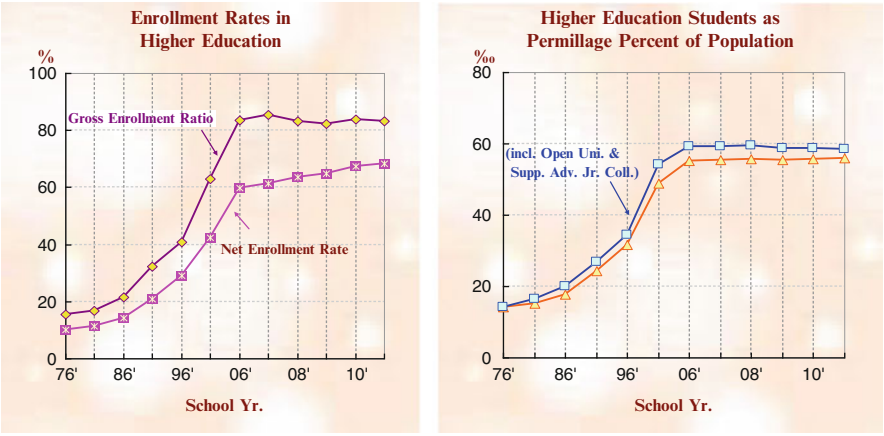

Fig. 12.1 Increasing number of students in Taiwan's higher education (Source: Ministry of Education 2013b)

in the system (Ministry of Education 2013b). According to 2012 Education Statistical Indicators, the tertiary education gross enrollment rate (GER) has reached 84 % (see Fig. 12.1), higher than in most other Asian countries (Ministry of Education 2013a). Based on Trow's view (1973), an enrollment rate exceeding 50 % indicates that higher education has moved from traditional elite education through mass stratification education and has entered the stage of a universal system. During the 1990s, the GER percentage in Taiwan reached over 50 %, and the expanded higher-education provision caused public concern. Now, the public expects higher education institutions not only to maintain high enrollment rates, but also to improve educational quality. This phenomenon matches Heyneman's observation (2008) on higher education systems.

Balancing quantity and quality has become an important issue in current higher education. One nation after another has put forward plans to improve university teaching quality. Examples include the UK's Centres for Excellence in Teaching and Learning and the National Framework for Professional Standards for Teaching, launched by the white paper *The Future of Higher Education* (Ministerial Council on Education, Employment Training and Youth Affairs 2003); Harvard University's Derek Bok Center for Teaching and Learning; and the Center for Teaching Excellence support system at the University of Illinois. The National University of Singapore's Centre for Development of Teaching and Learning also actively promotes teachers' professional development and teaching assistant training to improve the quality of instruction. Similarly, Taiwan's Ministry of Education (MOE) promoted the Program for Promoting University Teaching Excellence in 2005. This program awards five billion NT dollars yearly (about 152 million US dollars; 7.7 % of Taiwan's higher education budget) to address universities' focus on research at the expense of teaching and to improve their instructional quality (Chang and Yeh 2012).

When we refer to student learning, learning outcomes become the basis for judging successful instruction (Donald 2000). A survey in Taiwan indicated that 30–45 % of university teachers assigned their students failing grades (Lu 2007). A survey by Taiwan's *Common Wealth Magazine* in 2006 revealed that 78 % of professors felt that university students had declined in quality compared to 10 years previously, in terms of diligence, school manners, and sense of direction (Hsu 2006). As Bok (2007) indicated in his famous book, "*Our underachieving colleges*". the real factor impacting the educational quality of universities is teaching. Therefore, finding methods for improving the instructional quality of higher education challenges many institutions in different sectors. Even so, who should take responsibility for students' low achievement? That is a never ending debate. No doubt, students have the major responsibility. This chapter focuses on student engagement issues in Taiwan, especially issues in the mass higher education system.

Recently, employment opportunities have decreased in Taiwan, and the linkage between education and potential employment for graduates has become another critical issue. This has prompted various post-secondary institutions to reconsider how to assist their students in finding jobs, with career preparation becoming a major goal of higher education institutions (Sagen et al. 2000). These institutions play an important role not only in providing excellent teaching and learning environments, but also in contributing to social and economic development. In other words, higher education institutions have a responsibility to help students with their career development to improve their employability. According to a report from National Statistics, Taiwan, the unemployment rate reached 4.24 % in 2012. The rate for men is 4.49 %, compared to 3.92 % for women. Men's unemployment rate is higher than women's. The unemployment rate for college graduates rose to 5.37 % in 2012 (National Statistics, Taiwan 2013). According to National Statistics, college graduates have high pressure to seek their new jobs. Many college students may experience uncertainty about career choices in an environment of economic uncertainty. In these circumstances, it makes sense to determine how college students are responding to the challenges of unemployment. Does situational pressure caused by unemployment rates influence students' learning activities? If so, to what extent?

12.2 Focusing on Student Learning

The notion of a framework for professional standards of teaching and supporting learning in higher education was proposed in the UK in the White Paper *The Future of Higher Education* (Ministerial Council on Education, Employment Training and Youth Affairs 2003). In response to this the UUK, SCOP and the UK HE funding bodies invited the Higher Education Academy to consult with the sector in terms of public and private institutes to develop such a framework. Following extensive consultation, a National Professional Standards Framework was developed for institutions to apply to their professional development programs and activities and thus demonstrate that professional standards for teaching and supporting learning were

being met. At the heart of this framework is an acknowledgement of the distinctive nature of teaching in higher education, respect for the autonomy of higher education institutions, and recognition of the sector's understanding of quality enhancement to improve student learning. The framework recognizes that the scholarly nature of subject inquiry and knowledge creation, along with a scholarly approach to pedagogy, can combine to represent a unique support feature for student learning in higher education institutions (The Higher Education Academy 2013a). The HEA's Postgraduate Taught Experience Survey (PTES) continued its engagement with students and institutions, with 83 institutions taking part in PTES 2012 (up from 80 in 2011) and 54,640 students responding (up from 38,756 in 2011). The national response rate was 24.7 % (up from 17.8 % in 2011) (The Higher Education Academy 2013b).

In the United States, the National Survey of Student Engagement (NSSE) survey, launched in 2000 and updated in 2013, assesses the extent to which students engage in educational practices associated with high levels of learning and development. The questionnaire was used to collect information in five categories: (1) participation in dozens of educationally purposeful activities, (2) institutional requirements and the challenging nature of coursework, (3) perceptions of the college environment, (4) estimations of educational and personal growth since starting college, and (5) background and demographic information (NSSE 2013). The themes of NSSE include academic challenge (engagement indicators are higher-order learning, reflective and integrative learning, learning strategies, and quantitative reasoning), learning with peers (engagement indicators are collaborative learning and discussions with others), experiences with faculty (engagement indicators are student-faculty interaction and effective teaching practices), and campus environment (engagement indicators are quality of interactions and supportive environment) (NSSE 2014a, b).

In Taiwan, in 2005, the Ministry of Education (MOE) initiated the Program for Promoting University Teaching Excellence (Teaching Excellence Program), which awards five billion NT dollars per year to improve instructional quality. Initially, most universities tended to use their funding to upgrade hardware and other physical resources: e.g., building an online sharing platform for teaching information and teaching resources, and improving teaching facilities and equipment such as classroom space, computer rooms, and laboratory equipment. However, from the students' point of view, better student counseling was most needed. So how can higher education meet the needs of students? It has become important that universities prioritize students' career development and student association activities, help them obtain professional licenses and certifications, and provide life and career counseling (Chang and Yeh 2012). In addition, students believed that the teachers themselves were a better investment for instructional quality, followed by resources. Related research found that universities participating in the Teaching Excellence Program still had the following problems: teaching equipment did not meet student needs; schools did not provide enough training or internship opportunities; teaching evaluation systems did not provide fair evaluations of teachers; employment and career development guidance for graduates needed improvement, and students were not satisfied with the learning culture (Chang and Yeh 2012). All these issues impact student engagement.

12.3 Concept of Student Engagement

Webster's dictionary defines the term *engagement* as involvement or commitment, for our purposes, of the students in their learning. A basic understanding of student engagement is that students' activities, involvement, and efforts in their learning tasks relate to their academic achievement (Hu et al. 2012). In essence, the more students spend quality time studying their subjects, the more they will know about them. Similarly, the more students interact academically with the faculty, the more deeply they tend to understand what they are learning (Kuh 2009). Specifically, Fredricks et al. (2004) defined behavioral engagement as participation and involvement in academic and social or extracurricular activities; cognitive engagement as investment that incorporated thoughtfulness and willingness to exert the necessary effort to comprehend complicated concepts and master difficult skills; and emotional engagement as positive and negative reactions to instructors, peers, and the academic context as a whole.

Behavioral engagement assists students in achieving positive academic outcomes and prevents them from dropping out. Particularly, behavioral engagement entails positive conduct, involvement in learning and academic tasks, including behaviors such as effort, persistence, concentration, attention, asking questions, and contributing to class discussion, as well as participation in school-related activities (Finn and Voelkl 1993; Finn et al. 1995). Classroom participation includes cooperative participation, adhering to classroom rules, and autonomous participation or self-directed academic behaviors (Birch and Ladd 1997).

Cognitive engagement refers to investment in learning, which incorporates thoughtfulness and willingness to comprehend complex ideas and master difficult skills (Fredricks et al. 2004). Cognitive engagement involves psychological investment in learning, a desire to go beyond the requirements, and a preference for challenges (Connell and Wellborn 1991; Newmann 1991). It could also be defined as being strategic or self-regulating. Some studies have asserted that undergraduates being strategic in learning might imply they were getting good grades, but it did not necessarily mean they were learning in a self-regulated way. Emotional engagement encompasses positive and negative reactions to teachers, classmates, academics, and school. It was presumed to create students' emotional ties to an institution and influence their willingness to do the work (Fredricks et al. 2004).

Emotional engagement also refers to student affective reactions in the classroom, including interest, boredom, happiness, sadness, and anxiety (Connell and Wellborn 1991; Skinner and Belmont 1993). Emotional engagement could be assessed by measuring emotional reactions to the college and the teacher (Stipek 2002). Some conceptualize it as identifying with the college, a feeling of belonging to the community, and valuing campus experiences. Overall, students feel important to the college and appreciate their success in college-related outcomes. High emotional engagement represents a subjective state of complete involvement, or the "flow" that provides a conceptualization for high emotional involvement or investment, whereby individuals become so engaged in an activity they lose awareness of time and space (Csikzentmihalyi 1988).

The National Research Council (2004) regarded emotional engagement and motivation as the same thing, specifically with regard to student interests. Traditionally, some researchers have considered the emotional and cognitive dimensions of engagement to be similar. These researchers have considered a key component in cognitive engagement, that is, willingness to face challenges, as motivation, thus concluding emotional engagement does not differ from cognitive engagement. Furthermore, Elffers et al. (2012) suggested that maintaining a good relationship with peers is important for engaging students in post-secondary vocational education. Students' emotional engagement is associated with perceived academic fitness. However, perceived faculty support is *not* associated with students' emotional engagement.

12.4 Related Factors Linked to Student Engagement

Which students will the most engage on campus? Zhao et al. (2005) found that international students were more engaged in educationally purposeful activities than their American counterparts on US campuses. According to the National Survey of Student Engagement, women, full-time students, students living on campus, students with diverse experiences, international students, and students who graduated from the same school in which they began their education are more engaged (Kuh 2003). Likewise, Porter's study revealed that females, students on financial aid, full-time students, on-campus residents, and humanities and science majors are more engaged than working students, first-generation college students, and students who have not declared a major (Porter 2006). Hu and Kuh (2002) found that students attending public institutions and research institutions are less engaged than students attending private colleges and other institutional types, including doctoral universities, selective liberal arts colleges, and general liberal arts colleges. Furthermore, Hu et al. (2007) concluded that student engagement in research-related activities has increased from 1998 at all types of institutions and in all major fields of American higher education.

12.4.1 Student Engagement and Academic Achievement

Student engagement studies have generally focused on enhancing academic achievement (Trowler 2010). This study defines student engagement as student participation in educationally purposeful activities to improve their quality of learning and achievement (Hu and Kuh 2002). According to Carini et al. (2006), there is a significant relationship between student engagement and student achievement—as reflected in students' grade point averages. For that reason, engagement is considered an important predictor of student achievement (Handelsman et al. 2005; Carini et al. 2006). In other words, engaged students are more likely to perform well academically and complete their studies. However, does

student engagement increase academic achievement in a specific setting? One main purpose of this chapter is to explore the relationship between students' engagement and their academic achievement.

12.4.2 Relationship Between Student Engagement and Satisfaction

Previous studies have shown that student satisfaction can be used to explain student–faculty relations, academic, and pedagogic quality. Student development has been affected by satisfaction with factors such as faculty–student relationships, peer relationships, and students' self-evaluations (Thomas and Galambos 2004). Astin (1999) pointed that students who frequently interact with faculty are more satisfied with their educational experience than those who frequently interact in other ways, for example, in student friendships, various courses, the intellectual environment, and the institutional administration. Likewise, Chen and Hughes (2004) indicated that faculty competence and student–faculty relations impact student satisfaction. Academic and pedagogic quality are the most important determinants of student satisfaction (Wiers-Jenssen et al. 2002). Thomas and Galambos (2004) suggested that academic experiences influence student satisfaction, and that faculty preparedness especially affects to student achievement. In other words, academic experience is an important determinant of student satisfaction. However, campus services and facilities have little effect on student satisfaction. Additionally, students' demographic characteristics do not relate significantly to student satisfaction. Is this picture still a good fit to the current mass higher education system?

12.5 Student Engagement Survey in Taiwan

This chapter compared the gender, sector, college, and grade difference in students' engagement patterns and their learning outcomes in Taiwan. In 2013, data from 2,987 respondents were collected through voluntary participation in a researcher-prepared survey. The results provide more detailed information to explain these linkages and their impact on student engagement.

12.5.1 Instrument

The research instrument includes the following components. Student engagement is defined by (a) behavioral engagement, (b) emotional engagement, and (c) cognitive engagement. Students' time is defined by the time spent on related activities on or off campus, such as reading, studying, working part-time jobs, participating in

campus clubs, recreation, housecleaning, and transportation. Student satisfaction is measured by overall satisfaction with the institution, including academic experience and school activities. Academic achievement is evaluated according to students' final grades in the previous semester. The questionnaire contains 54 items, including student engagement (behavioral engagement, 27 items; emotional engagement 15 items; and cognitive engagement 10 items), student satisfaction (one item), and academic achievement (one item). Specifically, the definitions of main variables in the survey questionnaire are as follows:

1. Student engagement, defined as (a) behavioral engagement, (b) emotional engagement, and (c) cognitive engagement:
   (a) Behavioral engagement, for example, "How many books have you read in your course?"
   (b) Emotional engagement, for example, "Please rate the relationship between you and your faculty members."
   (c) Cognitive engagement, for example, "How often do you analyze the bases of theories or ideas, examine their dimensions in depth, and consider their situations?"
2. Student satisfaction, defined as students' overall satisfaction with their educational experiences: "Please rate your overall satisfaction with your educational experience and school activities in the previous semester."
3. Academic achievement, determined by semester final grades: "What were your final grades in the previous semester?"

The survey had a combination of Likert-type responses from 1 (strongly disagree) to 5 (strongly agree) and 1 (never) to 5 (always). A reliability analysis was conducted to assess the internal consistency of the researcher-designed questionnaire. The result revealed that the Cronbach's alpha was 0.893, a satisfactory statistical level.

The 2,987 responses were divided as follows: 51.4 % from the public sector and 48.6 % from the private sector; males 50.8 % and females 48.9 %. Roughly, 17.8 % of the students were in the college of humanities, 29.5 % in the college of social sciences and management, and the other 36.5 % in the college of science and technology. The related characteristics of the samples are listed in Table 12.1.

12.5.2 Percentage of Time Spent

"Time spent" is defined as the student's time spent on related activities on or off campus. The percentage of students' time spent on reading/study was 15.82 %; on part-time jobs, 14.7 %; on participating in campus clubs, 13.9 %; on recreation related activities, 22.89 %; on housecleaning-related activities, 15.82 %; and on transportation, 14.95 % (see Fig. 12.2).

Table 12.1 Characteristics of samples

Variables		Frequencies	Percent	Valid percent[a]
Sector	Public	1,534	51.4	51.4
	Private	1,452	48.6	48.6
Types	University	2,489	83.4	83.4
	College	497	16.6	16.6
Regions	North	1,555	52.1	52.1
	Central	442	14.8	14.8
	South	989	33.1	33.1
Gender	Male	1,517	50.8	50.9
	Female	1,461	48.9	49.1
Grade	Freshman	942	31.5	31.6
	Sophomore	815	27.3	27.3
	Junior	698	23.4	23.4
	Senior	527	17.6	17.7
Majors	Humanities	533	17.8	21.3
	Social & management	881	29.5	35.2
	Science & technology	1,091	36.5	43.6

Note:
[a]Valid percentages did not include missing values

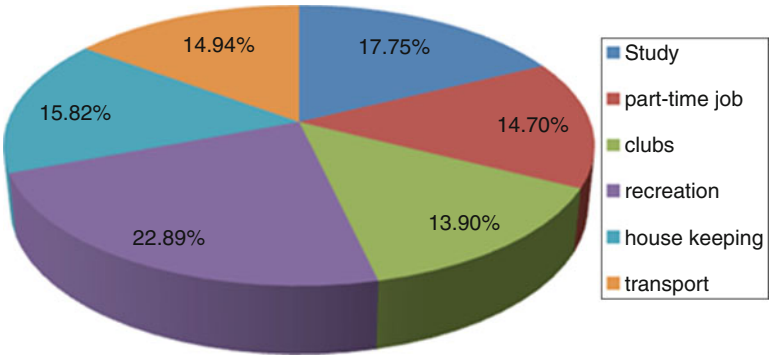

Fig. 12.2 Percentage of students' time spent on related activities

12.6 Explanation by Student Engagement

This chapter seeks to gain an understanding of students in mass higher education by way of student engagement to explore the related characteristics in these settings. In this study, 58.095 % of variance can be explained by the following three engagement components: 24.097 % by cognitive engagement; 19.725 % by behavioral engagement, and 14.273 % by emotional engagement. To explain student engagement further, we compare differences in gender, sector, college, and year of study.

The data reveal gender differences only in relation to behavioral engagement. Public and private sectors differ in behavioral and cognitive engagement. College and year of study differ in behavioral engagement at a 0.01 level of significance (see Table 12.2).

Table 12.2 Comparison of student engagement by gender, sector, college, and grade

Engagement	Variables		Number of students[a]	Mean[b]	t or F	Significance *p*
Behavioral	Gender	Male	1,509	2.5142	5.600	.000
		Female	1,443	2.3665		
	Sector	Public	1,521	2.5111	5.288	.000
		Private	1,439	2.3715		
	College	Humanities	522	2.5115	7.679	.000
		Social & Mang.	879	2.3838		
		Science & Tec.	1,085	2.4933		
	Grade	Freshman	931	2.3040	22.791	.000
		Sophomore	809	2.4549		
		Junior	692	2.4815		
		Senior	524	2.6153		
Cognitive	Gender	Male	1,499	3.1881	1.889	.310
		Female	1,446	3.1371		
	Sector	Public	1,521	3.2930	10.115	.000
		Private	1,432	3.0246		
	College	Humanities	524	3.1809	.155	.856
		Social & Mang.	878	3.1772		
		Science & Tec.	1,078	3.1946		
	Grade	Freshman	928	3.0504	12.864	.000
		Sophomore	806	3.1702		
		Junior	691	3.2205		
		Senior	524	3.2737		
Emotional	Gender	Male	1,516	3.1939	−.612	.121
		Female	1,455	3.2131		
	Sector	Public	1,528	3.2079	.302	.763
		Private	1,451	3.1985		
	College	Humanities	532	3.2803	3.79	.023
		Social & Mang.	880	3.1973		
		Science & Tec.	1,087	3.1632		
	Grade	Freshman	940	3.1805	2.030	.108
		Sophomore	815	3.2037		
		Junior	696	3.2677		
		Senior	524	3.1590		

Notes:
[a]Exclude the missing values
[b]Mean is calculated on a 1–5 scale

12.7 Student Satisfaction, Achievement, and Identification with the School

Table 12.3 reveals that most of the students view their achievement as fair, at 38.7 %; as better at 35.6 %; and as best at only 5 %. According to the self-report data, more students see themselves at a satisfactory level of learning than at an unsatisfactory level. How do the students evaluate their learning experiences? Most students have positive learning experiences in their current campus life but 11.9 % feel negatively about their campus experiences. Reviewing the campus experiences from the other side, one item asked, "Would you recommend others to attend your university or college?" and 43.4 % reported they would. In addition, 12.3 % of the students would strongly recommend others to attend their university or college. Table 12.3 presents the related data.

Table 12.4 shows that gender, sector, and college differences affect achievement, satisfaction, experiences, and identification with the school. Specifically, female

Table 12.3 Percentages of student achievement, satisfaction, learning experiences, and recognition

	1	2	3	4	5
Achievement (%)	3.1	17.5	38.7	35.6	5.0
Satisfaction (%)	3.6	18.4	36.6	37.7	3.6
Experiences (%)	2.4	9.5	40.5	42.4	5.2
Recognition (%)	2.8	6.8	34.7	43.4	12.3

Note. The survey has Likert-type responses from 1 (strongly disagree) to 5 (strongly agree)

Table 12.4 Effects of campus life and the testing of group differences

Effects		Group differences	Mean	t or F test	Significance (*P*)
Achievement	Gender	Total	3.22		
		Male	3.00	−13.899	.000
		Female	3.45		
	Sector	Public	3.41	12.451	.000
		Private	3.01		
	College	Humanities	3.54	60.807	.000
		Social & Mang.	3.31		
		Science & Tec.	3.04		
Satisfaction	Gender	Total	3.19		
		Male	3.07	−7.875	.000
		Female	3.33		
	Sector	Public	3.24	3.080	.002
		Private	3.14		
	College	Humanities	3.34	16.569	.000
		Social & Mang.	3.26		
		Science & Tec.	3.09		

(continued)

Table 12.4 (continued)

Effects		Group differences	Mean	t or F test	Significance (*P*)
Experiences	Gender	Total	3.38		
		Male	3.29	−6.367	.000
		Female	3.48		
	Sector	Public	3.43	3.400	.001
		Private	3.33		
	College	Humanities	3.55	17.858	.000
		Social & Mang.	3.26		
		Science & Tec.	3.09		
Recognition	Gender	Total	3.56		
		Male	3.48	−4.473	.000
		Female	3.63		
	Sector	Public	3.67	7.093	.000
		Private	3.44		
	College	Humanities	3.68	8.044	.000
		Social & Mang.	3.50		
		Science & Tec.	3.51		

students do better than males in academic achievement, are more satisfied with their learning activities, and value their experiences more highly. The female students also demonstrate greater identification with their school or their campus and would recommend others to attend their school. The analysis also shows that students in the public sector have better academic performance, greater satisfaction, better experiences, and express greater identification with the school. There are disparities between colleges in the effects of campus life. Students from the college of the humanities report a higher rate of academic performance, satisfaction, campus experiences, and identification with the campus.

12.8 Problems/Issues Students Face While Studying

12.8.1 Academic Challenges and Time Spent

This study also reviewed "academic challenge" in terms of students' self-reporting of their engagement and time spent on required and non-required courses. As Table 12.5 shows, there are no statistically significant differences in the academic challenges in required courses for freshmen, sophomores, juniors, and seniors. The time spent on required courses is similar for all students in the study. However, the challenges of non-required courses and time spent on them differ according to year. Senior students feel more challenged in non-required courses and spend more time on them.

Table 12.5 Students' academic challenges and time spent compared by grade

Challenges & engagement	Grade	Students	Mean	F	Significance *p*
Challenge of required courses	Total	2,976	3.52	1.435	.231
	Freshman	939	3.48		
	Sophomore	813	3.55		
	Junior	698	3.54		
	Senior	526	3.48		
Time spent on required courses	Total	2,977	3.22	1.928	.123
	Freshman	941	3.21		
	Sophomore	813	3.18		
	Junior	697	3.24		
	Senior	526	3.29		
Challenge of none-required courses	Total	2,971	3.34	4.773	.003*
	Freshman	941	3.29		
	Sophomore	812	3.35		
	Junior	693	3.29		
	Senior	525	3.45		
Time spent on none-required courses	Total	2,963	3.30	4.604	.003*
	Freshman	936	3.26		
	Sophomore	814	3.29		
	Junior	694	3.29		
	Senior	519	3.42		

Note. *$p < 0.01$

Table 12.6 Learning with peers and experiences with faculty

	Never (%)	Seldom (%)	Fair (%)	Often (%)	Always (%)
Learning with peers					
Collaborative learning	7.2	22.3	41.7	24.6	4.1
Discussions with others	25.4	29.9	29.5	11.6	3.6
Experiences with faculty					
Course related discussions	22.6	34.8	30.0	10.6	2.0
Career related advices	25.8	34.6	29.3	8.6	1.6

12.8.2 Learning with Peers and Experiences with Faculty

This study raises some potential issues regarding students in the mass higher education system. First, most of the students report they never (25.4 %) or seldom (29.9 %) talk with others on the campus. Second, the students lack contact with their professors. For example, only 12.6 % of the students report that they often or always discuss course-related issues with their professors. Third, most of the students are unlikely to consult their professors when they face career-development issues, and 25.8 % never seek career advice from their professors (Table 12.6).

12.8.3 *Linkage of Student Engagement, Achievement, and Career Choice*

To test linkages, we applied structural equation modeling (SEM) analysis to identify relationships among student engagement, academic achievement, and career choice. Figure 12.3 details the results. In the SEM model, the data are a good fit to the model if the values of GFI, AGFI, NFI, RFI, and CFI are more than 0.90, and the RMSEA is less than 0.08. According to the acceptable level of fit and the fitness indices, all values nearly satisfied the recommended levels.

The results reveal a difference between male and female students on student engagement (cognitive engagement), academic achievement, and career choice (civil service and academic development) measures. Male students do better than female students in cognitive engagement. In contrast, female students do better than male students in academic achievement and are more likely to choose civil service and academic development. This finding may explain why women's unemployment rate (3.81 %) is lower than men's (4.47 %), and in the 25-to-44 age bracket, the unemployment rates are 3.80 and 5.03 % for women and men, respectively. Based on these results, it appears that women are more likely than men to take the civil-service examination. Women may also prefer a stable job such as the civil service, and they may change jobs less frequently than men. These findings are similar to the conclusions in reports from the Ministry of Education, the Council of Labor Affairs, and the Ministry of Examination.

More important, the findings reveal that female students attain higher academic achievement than male students. However, the results also indicate that academic achievement has no significant direct effect on career choice. In other words, although academic achievement differs between male and female students, it does

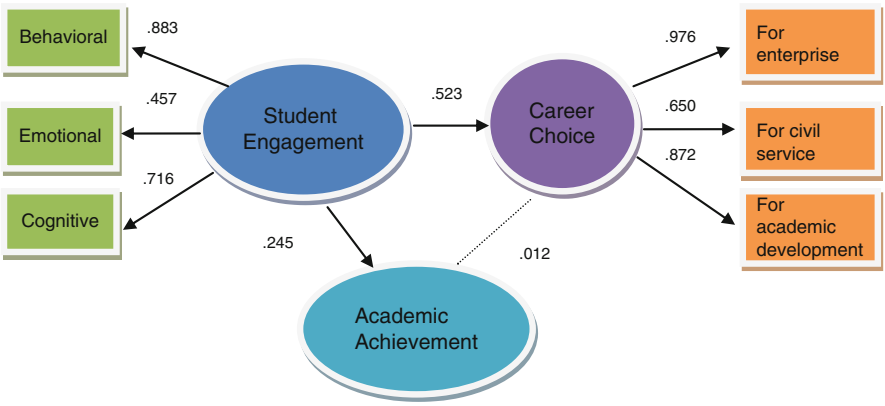

Fig. 12.3 Paths and coefficients in the SEM model

not influence either gender's career choices, which depend not only on academic achievement, but also on diversity development.

This study provides evidence that student engagement contributes to academic achievement and career choice. Student engagement leads to improved academic achievement in this model. Institutions should improve students' academic achievement through efforts to raise behavioral, emotional, and cognitive engagement. Moreover, student engagement enhances students' willingness to work toward academic development and for enterprise and civil service. Therefore, institutions can provide information in these three areas to help students prepare for professional or further career development. Institutions of higher education and faculty members play important roles in improving students' academic achievement and helping them make career choices. However, how to enhance student and faculty interaction is another challenge. Related initiatives in higher education will increase students' development and help them make a successful start in their careers.

12.9 Implications for Mass Higher Education

This survey shows that student engagement varies in behavioral and cognitive dimensions. The main differences are found in relation to gender, sector, and colleges. The effect of students' campus life also shows disparities in gender, sector, college, and year of study. However, this research found no significant differences in academic challenges in required courses when comparing students according to year of study. Even so, senior students challenge themselves with more and wider learning experiences. Furthermore, the study indicates a serious lack of learning with peers and interacting with faculty, and indicates the importance of enhancing students' discussion with others and providing them a friendlier environment for contacting their faculty.

The findings led to some specific suggestions that will help institutions and faculty. First, institutions need to provide more interesting and useful programs to stimulate students' behavioral engagement. Second, institutions also need to enhance their organizational development and reputations to increase students' satisfaction and identification with the university (a form of emotional engagement). Third, faculty need more better strategies for motivating students to engage in a deeper level of understanding, critical thinking, and problem solving through cognitive engagement.

The study also raises doubts about the steadfastness of the components in student engagement theory as it applies to different educational contexts and countries. The findings might imply promoting student engagement in local context of higher education. The related experiences may provide an example for the expanded higher education systems in Asia.

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Chapter 13
What Makes the Quality of Students' Learning? Focusing on the Articulation Between High School and University

Reiko Yamada

13.1 Introduction

Universities and colleges in Japan have experienced sweeping and sudden changes during the past 10 years. These changes are stem from two phenomena. One is globalization and its impact. The serious competition resulting from globalization has pushed Japanese universities to transform themselves to cope with a knowledge-based society. This transfer of knowledge and human personnel in a knowledge-based society is seen as synonymous with internationalization, and obliges Japanese universities to deal with upgrading excellence in research as well as teaching and learning in a more global context. The other phenomenon is universalization, caused by an 18 year decrease in Japanese birth rate. In other words, Japanese universities are in the stage of post-massification where more than 50 % of the age group has access to higher education (Trow 1974). With 49.9 % of recent high school graduates enrolling in higher education in 2003, Japan has entered the post-massification phase of higher education. In this situation, almost all students who desire to enter university will be able to gain admission, which in turn means that students with less preparation for university studies, in terms of basic knowledge, study skills, and motivation, are now able enter higher education also. This is encouraging Japanese universities to develop more learning centered higher education programs.

Both phenomena highlight the accountability issue for Japanese higher education institutions. One aspect of this is an obligation for university evaluation and faculty development. The Central Council for Education in Japan presented a report entitled "For Restructuring Undergraduate Education" in 2008. In this report, many critical issues were addressed and proposals for improving undergraduate education included.

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This report has triggered the shift toward a teaching and learning oriented policy in Japanese higher education. The result has been that "quality assurance" has rushed the reform of curriculum, program, and pedagogy in order to deal with both excellence and universalization simultaneously.

When we consider the quality of learning of undergraduate students, it is important to examine the articulation between learning in secondary school and university or college. First, I will discuss the government policy changes toward higher education during the period of rapid environmental change in Japanese higher education. Then to address the question of what has led to the transformation of Japanese higher education structures, I will refer to student data and show how Japanese higher education institutions have dealt with post-massification. Finally, I would like to explore the issues and challenges we face.

13.2 Growing Attention to Learning Outcomes in Undergraduate Education

Environmental changes are forcing Japanese higher education institutions to pay much more attention to teaching and learning, and to students' learning outcome. That is, the general public has become more concerned with higher education, and with educational and research outcomes. In particular, one of the aspects of the accountability issue is the need for university evaluation and faculty development. The public will start to criticize when dissatisfied with the effectiveness and the performance of a higher education institution. In other words, education outcomes are important for securing quality and for proving institutional accountability.

MEXT developed competitive grants to encourage efforts to transform university cultures into more learning-centered institutions in order to address the need for more attention to teaching in Japanese institutions of higher education. The increased attention on effective teaching has forced even research-centered universities to focus more on teaching and learning. Since 2000 there has continued to be a small number of research-centered universities that are highly competitive worldwide, while the majority of four-year universities have been forced to become more learning-and teaching-centered.

In the report of the Central Council for Education in 2008, many issues were addressed and proposals for improving undergraduate education in Japan proposed. One proposal, making reference to the issue of student learning outcomes is the need to develop quality assurance for graduating students. Since the Report, which recommended establishing common standards for "Learning Outcomes", the issue has become critical in Japanese higher education. The report proposed "Graduate Attributes" as a reference guideline. These include the following: (1) knowledge and understanding includes intercultural-multicultural knowledge and human culture, society and nature, (2) generic skills include communication skills, quantitative skills, information literacy skills, logical thinking skills and problem solving skills.

(3) attitude and orientation refer to self-control, teamwork, collaboration, leadership, ethics, citizenship and lifelong learning. (4) integrated learning experiences and creative thinking (MEXT 2008).

Although the Council in Japan recommended these "Graduate Attributes" as "Learning Outcomes" of undergraduate education, the list has much in common with what is happening in other countries. The Report of the Task Force on General Education, published by the Faculty of Arts and Sciences of Harvard University in 2007, is one such example. This report proposed several key elements of learning outcomes in Harvard general education (The Task Force on General Education 2006). The University of Melbourne set up "Attributes of the Melbourne Graduate" in 2007. Learning outcomes included logical thinking skills, problem solving skills, team work and collaboration, ethics, intercultural and multicultural literacy, and communication skills. These can be found in the Harvard report, Melbourne's graduate attributes, and the Japanese Council's report. These skills and attributes are regarded as "universal skills" required by the twenty-first century knowledge-based society. The existence of learning outcome commonalities in a number of countries suggests that there are also common strategies and policies for the knowledge-based society. Formerly, higher education institutions in each country established their own educational policies, and designed systems and services accordingly. But in a global society, every higher education institution must embrace universal standards or international standards. This internationalization of standards leading to common or similar curricula will expedite the migration of students between countries. Consequently the policy shift in Japanese higher education toward learning centered education may indirectly promote the migration of Japanese students outside the country and international students to come to the country.

13.3 Post-massification Problems in Japanese Higher Education

Although higher education institutions must deal with "universalism", they also have to solve local issues. In Japan post-massification has rapidly accelerated and all Japanese higher education institutions have to deal with this problem. The Council report recommended the development of first year experience in the curriculum, pointing to an increase in the number of students who did not take any scholastic entrance examinations. The report required a clear "Admission Policy" and emphasized the importance of FYE (First Year Experience) after entering the university as a prerequisite. The report explained that FYE is effective in supporting the transition of students from secondary education and urged the university to introduce or improve FYE as a normal curriculum of undergraduate education with credit in order to upgrade learning outcomes (The Central Education Council Report 2008).

13.4 Profile of New Entrants in Japanese Higher Education

With the approval of the Higher Education Research Institute (HERI) at UCLA, in 2005, I and my research fellows developed a Japanese version of the College Student Survey (JCSS) and in 2008, we developed Japanese Freshman Survey (JFS). The results from the two surveys will be discussed here. The framework of JCSS and JFS can be explained as follows. JCSS is the Japanese version of the College Student Survey (CSS). The original version is called the College Seniors Survey, and it was developed by the Higher Education Research Institute (HERI) at UCLA. JFS was modeled on the TFS and it was also developed by the HERI at UCLA. Following a pilot study in 2004, we conducted the JCSS in 2005, 2007, 2009 and 2012. We conducted the JFS in 2008, 2009, 2011 and 2013. Survey items focus on learning behavior, experiences, values, motivation, and student self-assessment. In particular, JFS focuses on learning behavior and learning style in high school in order to explore the articulation issue between high school and university and college.

In this section, I will show the data of JFS 2008 and the results of the analysis. This survey was given to first-year students between June and July of 2008, after 3 or 4 months of enrollment. Hundred and sixty three 4-year colleges and universities participated in our project, with a sample size of approximately 20,000. The proportion sampled for the JFS fits the proportion of overall Japanese national, public and private four-year universities. Though it was not a random sampling of all Japanese higher education institutions, the proportion is closely aligned. The JFS is more reflective of Japanese high school, college and entrance exams systems. It matches the Japanese higher education system more than the JCSS. The data used for this study are shown in the Table 13.1.

Figure 13.1 shows hours of various activities per week where high school students engaged when they were senior at high school. While many students studied for a considerable amount of time in preparing for University or College entrance exams, others spent much less.

Figure 13.2 indicates the learning behavior of high school senior students. Items in the survey seem to be associated with the desirable learning outcomes shown in the Report of the Central Council of Education in 2008. A few students experienced activities that led to problem discovery, problem solving, and logical analysis. Many students including those who wish to enroll in sciences and engineering, did not read articles and papers in science field.

Table 13.1 Summary of research data

	Humanities	Social Sciences	STEM	Medical Sciences	Teacher Training & Education	Information Sciences	Total
National Universities	321	614	1,568	112	424	202	3,241
Public U	10	334	70	457	3	89	963
Private U	2,081	4,556	1,760	1,766	1,299	1,214	12,676
Total	2,412	5,504	3,398	2,335	1,726	1,505	16,880

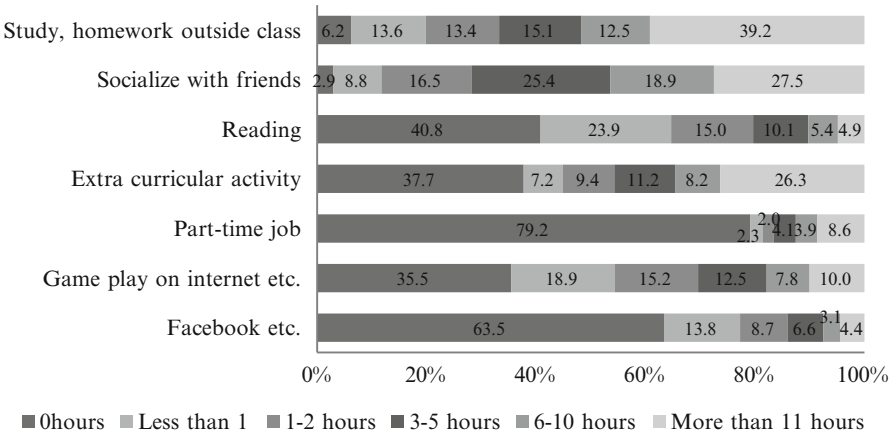

Fig. 13.1 Hours of activity per week of high school seniors

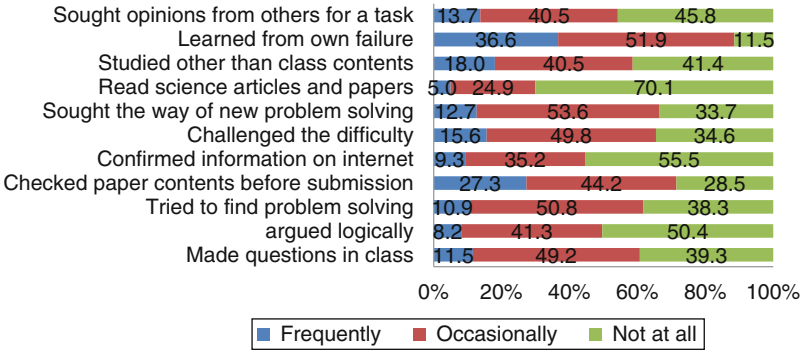

Fig. 13.2 Learning behavior of high school seniors

Next, I divided students into several categories based on their learning behavior through experiences in high school using the latent classification method. As a result, students are divided into six categories as shown in Fig. 13.3. The difference of Inquiry oriented (A) and (B) can be explained that although both categories of students experienced problem discovery and problem solving learning in high school, type (B) students are better able to relate their high school experience to learning in college. Also, the differences between Entrance exam oriented (A) and (B) can be explained in that while Entrance exam oriented (A) students studied for the purpose of passing the entrance examinations, (B) type of students studied with the clear goal in mind of what they will major in at college.

As the Fig. 13.3 shows, the greatest proportions of students take remedial English classes. We can divide them based on the student skills that I mentioned earlier. Guidance obedience oriented students have the appropriate experience in high school, and are very influenced by teachers' guidance. Many of these students take remedial

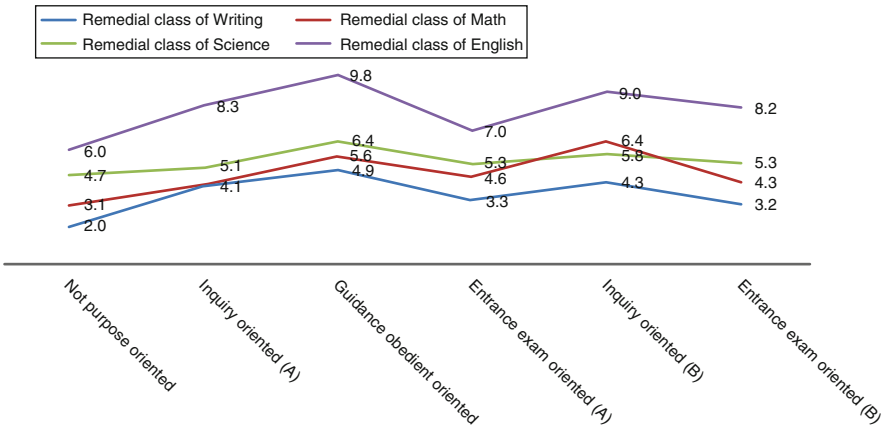

Fig. 13.3 A proportion of students' category who takes remedial classes

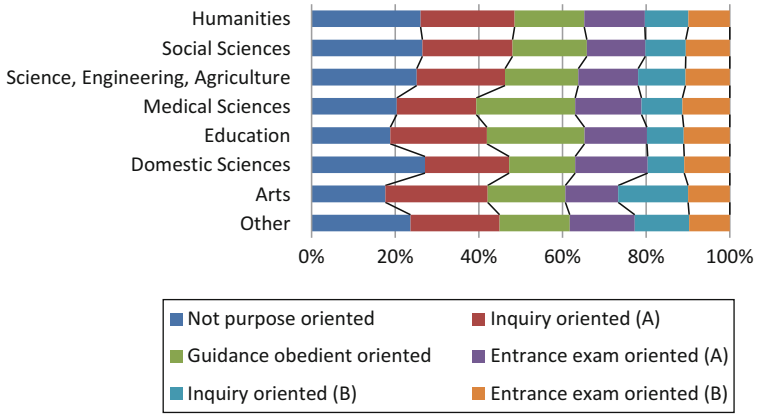

Fig. 13.4 Distribution of student category by major

classes. We hypothesize that guidance obedience oriented students are not self-motivated learners in high school, and this inadequacy is transferred to university.

Figure 13.4 shows there are few students categorized as inquiry oriented (B) and entrance exam oriented (B). Those students appear to have high affinity to learning at university. A total of four categories of first year students such as not purpose oriented, inquiry oriented (A), guidance obedient oriented and entrance exam oriented (A) accounts for almost 80 % in every major suggesting there is less articulation regarding learning style and behavior between high school and university.

Figure 13.5 shows an association between category of student and their type of entrance exams. The admission office type of exam has been criticized of late and many national universities no longer use this type of entrance exam. However, there is a possibility that students who enter the university through an admission office type of exam are categorized as inquiry oriented (B) based on the result of

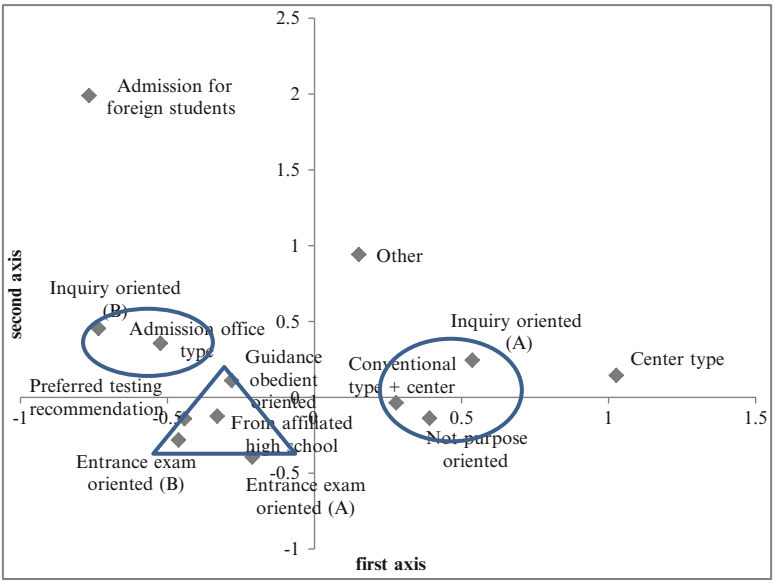

Fig. 13.5 Type of entrance exam and type of students

correspondence analysis shown in the Fig. 13.5. Students who enter through the admission office type of exam have high affinity to learning at the university. The affinity is marked by circle and triangle in the Fig. 13.5.

The survey data highlight several issues facing Japanese universities. Firstly, Japanese students have fewer experiences that lead to university learning and many students expect to take remedial classes. It is possible that there is less articulation between high school and university in terms of both teaching and learning style. In the next session, I will present the first-year experience program that Japanese universities have developed in this decade in response to educational reform movements.

13.5 Today's Japanese First-Year Experiences and Challenges

The first-year experience programs introduced seem to be closely connected to these issues. First-year seminars, which originally developed in the United States in the early twentieth century and were popularized in the 1980s, are evaluated for their function as a motivating force for teaching reform and improving the retention rate (Yamada 2004). The survey conducted by the National Resource Center for the First-Year Experience and Students in Transition, University of South Carolina, indicated that a first-year experience program supported the smooth transition of students entering college life. Upcraft et al. (1989) suggested that freshmen success can be defined in relation to six aspects: developing academic and intellectual

competence, establishing and maintaining interpersonal relationships, developing identity, deciding on a career and life-style, maintaining personal health and wellness, and developing an integrated philosophy of life. The success of first-year students clearly has meaning beyond earning a good grade point average. Several researchers have suggested that first-year students taking first-year seminars have achieved a higher retention rate in moving from first to second year (Fidler and Hunter 1989). In the United States, first-year seminars steadily developed to become indispensable and a much higher priority for policy-makers, fund providers, and rank-and-file faculty and administrators (Upcraft et al. 2005). Further, Upcraft et al. point out that credible assessment studies show the efficacy of the programs to assist first-year students' success (2005).

Yamada conducted the first Japanese survey for first-year programs (1999).[1] The study revealed that learning ability, learning motivation and note-taking skills of four-year university and college students had declined over the preceding 5 years. For this reason, universities and colleges reported that they recognized a need to deal with their students' lack of readiness for higher education. Private universities reported the greatest level of concern about the deterioration of student scholastic attainment, motivation, and social skills. The survey results also revealed a lack of agreement for a common definition of a first-year program in Japan. While some faculties and departments defined a first-year program as remedial education, others considered the program to be a regular component of the first-year curriculum. This confusion was apparent in the array of course content and pedagogy applied to a first-year program in Japanese universities. Because conditions of education are changing rapidly in Japan, it is hypothesized that the status of a first-year program has changed since the 1998 survey. To test the hypothesis, a survey was undertaken in 2001 of 1,170 deans and academic provosts at private universities. Comparing the results of the 1998 and 2001 surveys allows the researcher to determine the current status of first-year seminar programs in Japan and to evaluate the changes which have occurred during the period between the two surveys. In 2007, another almost identical survey was conducted for all national and private four-year universities in order to compare the progress of first-year experience during this decade.

80.9 % of Japanese universities integrated the first year seminar in the curriculum in 2001. The integration rate increased to 97 % in 2007. First-year experience programs have become prevalent in Japanese universities, spreading rapidly against the background of the reform of higher education system, with teaching and learning emphasized more. The new field "First-year Experiences" has been institutionalized in order to deal with the change of students. This phenomenon indicates that the enlargement and universalization of FYE has occurred, regardless of the discipline. We can assume that researchers from various disciplines have come to participate in the FYE movement in Japan during this decade.

[1] The survey was conducted for 209 Japanese four-year universities and colleges in 1998 in order to get information about offering freshman seminar or remedial education course. The final respondent rate was 54 %. The participating departments were medical, engineering, economics, intercultural studies and communication and language department.

In the past some educators had tried to make a general education in liberal arts a standard feature of first-year education in university. However, systematized or organized FYE classes were not a regular component of university education in Japan until the late 1990s. As it became apparent to universities and colleges that students were have difficulty adapting to college-level learning, such institutions gradually turned their attention to the first year of study. But concerns early on were largely *academic*: in Japan, FYE programs started as a feature of regular course work. There are currently seven explicitly defined types of FYE programs in Japan. They include (1) remedial education covering high school-level educational content; (2) study skills, such as report writing, reading comprehension and IT skill; (3) social skills, manners, and general knowledge required for university success; and (4) the transition to majors, including general and specialist knowledge in the major. Beyond these FYE programs seek to cultivate (5) career education; (6) student skills; and (7) a sense of attachment to the campus. The FYE is structured to introduce many active learning styles. University faculty expects to assist students with lower levels of motivation and less self-supported learning behavior to adjust smoothly to university. It should be noted that there are diverse types of FYE in Japan. Higher education institutions, which prioritize teaching and learning, introduce more comprehensive FYE programs and try to articulate these into the overall educational program. On the other hand, research focused higher education institutions put emphasis on the honors type of FYE program. It is important therefore to examine the relationship between the functional differentiation of higher education and FYE In the following section; I will explore this relationship using the data analysis.

13.6 Functional Differentiation of Higher Education and Students' First-Year Experience

Previous research on the functional differentiation of higher education can be broadly divided into two types: studies from a policy or institutional standpoint, and studies from the standpoint of student diversification. Reviewing the history of the universalization and diversification of higher education, Amano (2011) states that the idea of "functional differentiation" of higher education originated in the report submitted by the Central Council on Education in 1971 (also known as the "[Showa] Forty-six Report"). This document proposed that universities be classified into three types, with the aim of "diversification": universities providing (1) general education, (2) specialized subjects education, and (3) special-purpose training.[2] According to "The Future of Japanese Higher Education," issued in 2005 by the Subdivision on Universities, a body under MEXT (Ministry of Education, Culture, Sports, Science and Technology)'s Central Council for Education, many universities differentiate

[2]Amano, I. (2011). Universalization of higher education and diversification of universities (Japanese). In *Universalization of higher education and diversification of universities* (Japanese) (Higher Education Research Series, Vol. 113, pp. 17–39).

functionally on the basis of their independence and autonomy. This is because universities are expected to perform the following functions: (1) serve as global centers of research and education, (2) nurture advanced, specialized professionals, (3) nurture a wide range of professionals, (4) cultivate students in a comprehensive manner, (5) provide education and research in specific fields (arts, physical education, etc.), (6) serve as community centers for lifelong learning, and (7) contribute to society. Although MEXT's higher education policy is implemented on the basis of functional differentiation as described in the "Forty-six Report," the functional differentiation of universities in actuality is developing as a result of universities' research, education, globalization, and the allocation of competitive funds for purposes such as collaborations between universities.

Murasawa and Kuzuki's "Survey of Organizational Reforms in Universities" conducted shed light on the actual state of functional differentiation (2007). At the time of the survey, more national university administrators than public and private university administrators considered the following functions of universities as important: "serving as a global research center," "fostering advanced, specialized professionals," "participating in academic-industrial collaborations," and "advancing social collaboration (international exchange)." On the other hand, more private university administrators emphasized "educating students in a comprehensive manner" compared with national and public university administrators. Focusing on national universities, Shima (2011) empirically inquired into their administrators' perception as global research and educational centers. Such research from an institutional standpoint can shed light on the overall contours of functional differentiation. It has limitations, however, when it comes to understanding the actual conditions of students.

A series of studies by Kuzuki (2007) on functional differentiation from the standpoint of students has deep significance for empirically comprehending students' values, perceptions, and learning behavior in border-free universities. In discussions on the functional differentiation, these universities have emerged as symbols of the diversification of students. While border-free university students have positive perceptions and attitudes toward university classes, this mindset does not lead to their maintenance of study hours. This can be traced back to students' learning behavior during high school, when they were not enthusiastically engaged in studying.[3] Researchers consider such learning behavior before university entrance as predictive of behavior in universities. Igami (2010) considered universities in which diversified students enter as "marginal universities." He avers that these universities share two points as educators: (1) seeking to improve the employability of students through comprehensive learning of fundamental academic skills, and (2) equipping students with the competence to challenge society appropriately, even as they recognize themselves as non-elite.[4] According to Kuzuki (2007), for students of border-free universities, obtaining career qualifications is "an opportunity to recover a sense of

[3] Kuzuki, K. (2007). Preference of F-rank university studies toward learning (Japanese). *Journal of University Education, 29*(2), 87–92.

[4] Igami, K. (2010). What should be communicated to non-elite students: Social significance of 'Marginal Universities' (Japanese). *Journal of Japanese Labor Research*, (602), 27–38.

self-confidence in their own personhood" (pp. 87–92). For them, border-free universities function to provide "educational opportunities to obtain learning behavior and readiness" (pp. 87–92). Igami also positively viewed the effectiveness of efforts by marginal universities to help students obtain qualifications.

Yasuda (2007) examined high school students' needs and expectations regarding attending university, using their academic ability as the point of reference. He showed that students aspiring to national and public universities had relatively greater needs and expectations and the greater their level of academic ability, the greater their sense of expectation. Students aspiring to private universities had a higher sense of practical expectations, and those aspiring to national and public universities but with relatively lower academic ability had greater practical expectations. A series of empirical studies and field reports indicate the possibility that universities' functional differentiation is somehow reflected in students' expectations toward career education, which includes practical content, and the role it plays.

The next question is: How is "high school student culture," such as experience gained and learning behavior during high school, related to learning behavior after students enter university? Takeuchi 's research (2005, 2008) was groundbreaking in its approach of focusing on student culture. Based on the view that there is a continuity between high school student culture and university student culture, Yatagawa (2009) observed that involvement in social activities, such as "volunteering" as well as study-centric activities, such as "reading" and "studying for exams," during high school had a more positive effect on students' "preference for classroom learning" compared with students with less engagement in such activities.

A series of studies show that factors differentiating students, such as a "study-oriented culture" and "lack of study-oriented culture" during high school (which include academic ability and learning behavior), can be expected to serve as determining factors aligned with "preference for classroom learning." If we affirm these findings, then perhaps the first-year experience for new university students should not just play the role of supporting their transition from high school to university, but should also provide them with education that purposefully connects high school and university – that is, "education for fourth-year high school students." This is because new university students are becoming increasingly diversified in terms of their academic abilities, purposes and motivations for studying, and learning habits. If the first-year experience for university students that includes the aspect of "education for fourth-year high school students" appears, it is easy to imagine that the first-year experience will also have an impact on the functional differentiation of universities.

While Kuzuki's (2007) research showed the relationship between high-school student culture and preference for classroom learning, as well as effectiveness in obtaining qualifications, his studies were empirical and limited to border-free universities. Takeuchi's (2005, 2008) research did not necessarily focus on first-year students. In this study we place a greater focus on new university students, and seek to generalize functional differentiation to a greater extent according to fields of specialization and their difficulty. We study students' profiles, their perception toward careers, first-year experience, and the actual conditions of remedial education based on our freshmen survey.

13.7 Freshmen Survey Results of Conditions of New University Students

13.7.1 Variables Used in Analysis

In the analysis, the following variables were used: learning behavior during high school, number of hours spent studying outside of school during the third year of high school, perception of post-university career, conditions of taking remedial classes, and desire for taking classes. The basic analytic axes were the level of difficulty (deviation score) of the university department to which a student belongs, the type of university (national, public, private), field of specialization, and academic performance of the student during high school (academic ability). For independent variables, the axes were combined into two categories, resulting in two variables: type of university/academic ability and field of specialty/difficulty of department. For dependent variables, the following were used: learning behavior during high school, students' sense of importance in selecting a post-university career, the conditions for taking remedial education classes, and the desire to take classes.

Using a 4-point Likert-type scale, learning behavior during high school (11 items) and perception of post-university career (10 items) were established. Factor scores were used after applying principal component analysis (PCA).

Three factors were extracted as a result of PCA (varimax method) of learning behavior during high school (factor loading 0.500 or greater; cumulative contribution 57.1 %). They were named "Positivity toward learning," "Sense of challenge toward learning," and "Interest in learning a wide range of subjects." From reliability analysis, we could confirm the reliability of "Positivity toward learning" (Cronbach's alpha of 0.75), "Sense of challenge toward learning" (0.70), and "Interest in learning a wide range of subjects" (0.62).

For perception of post-university career, PCA (varimax method) resulted in two factors: "Desire for stability" and "Desire for challenges" (factor loading 0.550 or greater; cumulative contribution 55.0 %). The results of reliability analysis of the scales showed a certain level of reliability, with Cronbach's alpha of 0.74 for "Desire for stability" and 0.75 for "Desire for challenges."

13.7.2 New University Students' High-School Learning Behavior and Perception of Post-university Career

Table 13.2 shows the hours spent per week studying outside of school during the third year of high school by type of university/academic performance during high school ("academic ability") and the students' field of specialization/difficulty of the department. By type of school, we see that the lower a student's academic ability is, the less the amount of time spent studying outside of school. The results of the survey revealed that the study time of students at private universities tended to be shorter

Table 13.2 Hours spent per week learning outside of classes during the third year of high school by type of university/grade and majors/difficulty of department

Learning hours outside classes							
Type of university/academic performance during high school	0 to less than 1 h (%)	1 to less than 10 h (%)	Over 11 h (%)	Category of grade by field of specialization	0 to less than 1 h (%)	1 to less than 10 h (%)	Over 11 h (%)
High grade at National Universities	4.6	27.0	68.4	Humanities/open selectivity	30.5	49.0	20.5
Middle grade at National U	3.5	32.8	63.8	Humanities/low selectivity	26.3	44.8	28.9
Low grade at National U	12.7	39.5	47.8	Humanities/middle selectivity	18.4	44.2	37.4
High grade at Publicly Universities	2.9	27.9	69.3	Humanities/high selectivity	6.9	29.3	63.8
Middle grade at Public U	3.4	28.6	68.0	Social Sciences/open selectivity	44.9	38.1	17.0
Low grade at Public U	13.1	38.2	48.7	SS/low selectivity	32.5	44.6	23.0
High grade at Private Universities	23.4	41.9	34.7	SS/middle selectivity	18.0	41.7	40.3
Middle grade at Private U	20.4	45.6	34.0	SS/high selectivity	6.0	35.0	59.0
Low grade at Private U	31.3	41.9	26.8	STEM/open selectivity	28.3	47.9	23.8
Total	19.6	40.9	39.5	STEM/low selectivity	24.7	46.1	29.1
				STEM/middle selectivity	8.4	38.5	53.1
				STEM/high selectivity	5.2	27.6	67.2
				Medical Sciences/open selectivity	28.7	54.3	17.1
				MS/low selectivity	17.6	47.8	34.5
				MS/middle selectivity	8.5	39.3	52.2
				MS/high selectivity	9.9	36.2	53.9
				Teacher Training & Education/open selectivity	37.1	47.9	14.9
				TT&E/low selectivity	25.4	44.0	30.6
				TT&E/middle selectivity	11.1	35.9	53.1
				TT&E/high selectivity	8.5	39.2	52.3
				Information Sciences/open selectivity	38.9	47.0	14.1
				IS/low selectivity	31.2	50.3	18.5
				IS/middle selectivity	12.7	40.7	46.6
				IS/high selectivity	5.8	38.9	55.3
				Total	19.2	40.9	39.9

than those of students at national and public universities, regardless of their level of academic ability. By field of specialization, the results showed that for all fields, students entering border-free universities had a short extra-school study time of 0–1 h per week. In other words, nearly 30 % or more of the students did not study outside of school. For students with high academic ability, a small percentage responded with extra-school study time of 0–1 h. For those students, the lowest rate of responding study hours of 11 or more came from teacher-training/education majors although the rate was high (52.3 %). The group with the highest percentage responding 11 or more hours of extra-school study was STEM (science, technology, engineering, and math) majors at 67.2 %. In general, students with high academic ability maintained a considerable amount of extra-school study hours during high school. With regards to the amount of extra-school study, a bipolarization could be observed even for third-year high school students who were preparing for entrance exams, between the group involved in extra-school study and the groups not involved in extra-school study.

Table 13.3 shows the mean and standard deviation using a 4-point Likert-type scale for learning behavior during high school, where 4 points is assigned to "Frequently studied," 3 points to "Sometimes studied," 2 points to "Did not study much," and 1 point to "Did not study at all." Except for "I learn from personal mistakes," the average of all items was 2 points or less. In other words, in relation to learning behavior, a large number of new university students did not study during high school. Such study is considered fundamental for a smooth transition into university study. We can interpret the results to mean that this foundation is not being sufficiently laid during high school.

Analysis of variance (ANOVA) confirmed variance in each combination of field of specialization/difficulty of department. Regardless of the field of specialization, new students who belong to departments with a high degree of difficulty exceeded the average for all items concerning learning behavior. Meanwhile, students who belong to departments with a low degree of difficulty tended to have a high frequency of "Asked questions during class" and "Sought the teacher's advice on topics I worked on myself" during high school. By field of study, new students in teacher training/education showed a greater tendency compared with new students in other fields of specialization to be involved in learning behavior during high school, regardless of their departments' degree of difficulty. There is a stereotype that many students with a high affinity with active learning behavior aspire to be teacher training/education-related majors. The analysis provides some support for this stereotype.

We examined the data in terms of perception of careers by type of school and academic ability. Table 13.4 shows that the item emphasized by new students in selecting careers regardless of the type of university and their academic ability is "Stability and guarantee of livelihood." Over 90 % gave this response, regardless of the type of school or differences in academic ability. This is likely a reflection of the economic recession and deteriorating job market, and indicates that students have a strong desire for employment stability. The percentage who emphasized "The possibility of earning a high income" was also high for all groups, and also

Table 13.3 One-way ANOVA results of learning behavior during high school by field of specialization and level of difficulty

Fields/ selectivity	Asked questions in a class	Argued logically own opinions	Sought solutions to problems and described to others	Practiced academic writing	Confirmed the fact of information on internet	Challenged the hard tasks	Obtained a new solution to address the problem	Read scientific papers	Studied things based on own interest outside of class	Learned from own failure	Asked teacher's opinions about challenges that I worked
Humanities/ open	1.73	1.56	1.64	2.02	1.60	1.78	1.78	1.37	1.88	2.20	1.68
	.65	.65	.64	.76	.69	.70	.66	.59	.75	.70	.72
Humanities/ low	1.70	1.52	1.65	1.99	1.52	1.74	1.75	1.29	1.79	2.22	1.65
	.63	.63	.64	.78	.68	.68	.68	.54	.74	.65	.72
Humanities/ middle	1.75	1.57	1.70	2.03	1.50	1.81	1.74	1.26	1.80	2.28	1.70
	.67	.64	.66	.75	.64	.70	.65	.50	.75	.65	.72
Humanities/ high	1.64	1.58	1.76	2.23	1.58	1.92	1.88	1.30	1.77	2.30	1.70
	.65	.62	.61	.72	.64	.71	.67	.53	.75	.60	.72
Social Sciences/ open	1.75	1.60	1.67	1.87	1.54	1.79	1.73	1.34	1.73	2.17	1.61
	.66	.66	.66	.75	.67	.70	.68	.56	.73	.69	.67
SS/low	1.72	1.56	1.63	1.95	1.55	1.76	1.73	1.29	1.79	2.24	1.63
	.65	.64	.64	.76	.67	.67	.63	.52	.75	.66	.68
SS/middle	1.72	1.56	1.70	1.99	1.51	1.76	1.75	1.31	1.70	2.21	1.65
	.66	.65	.64	.74	.65	.68	.65	.54	.72	.65	.70
SS/high	1.67	1.63	1.76	2.06	1.62	1.85	1.84	1.31	1.73	2.29	1.67
	.66	.62	.65	.74	.69	.70	.64	.56	.75	.63	.71
STEM/open	1.76	1.55	1.73	1.81	1.56	1.75	1.72	1.40	1.76	2.17	1.68
	.66	.62	.64	.70	.67	.68	.62	.60	.73	.65	.69
STEM/low	1.68	1.50	1.66	1.82	1.59	1.76	1.72	1.42	1.84	2.13	1.64
	.66	.62	.62	.73	.68	.68	.65	.62	.76	.66	.68

(continued)

Table 13.3 (continued)

Fields/ selectivity	Asked questions in a class	Argued logically own opinions	Sought solutions to problems and described to others	Practiced academic writing	Confirmed the fact of information on internet	Challenged the hard tasks	Obtained a new solution to address the problem	Read scientific papers	Studied things based on own interest outside of class	Learned from own failure	Asked teacher's opinions about challenges that I worked
STEM/ middle	1.69	1.56	1.79	1.95	1.52	1.75	1.82	1.49	1.76	2.21	1.66
	.65	.63	.65	.75	.65	.66	.63	.64	.74	.64	.69
STEM/high	1.61	1.63	1.83	1.97	1.51	1.89	1.89	1.53	1.79	2.26	1.66
	.67	.64	.66	.77	.63	.68	.64	.67	.73	.61	.70
Medical Sciences/ open	1.80	1.53	.67	2.03	1.53	1.95	1.84	1.33	1.84	2.30	1.76
	.62	.59	.62	.73	.67	.64	.62	.53	.68	.62	.72
MS/low	1.77	1.58	1.78	2.06	1.52	1.84	1.77	1.34	1.74	2.30	1.73
	.65	.63	.62	.71	.65	.65	.63	.56	.72	.61	.69
MS/middle	1.70	1.53	1.74	2.06	1.46	1.80	1.84	1.38	1.71	2.31	1.72
	.61	.61	.61	.74	.62	.67	.63	.59	.72	.62	.71
MS/high	1.69	1.63	1.83	2.00	1.47	1.83	1.87	1.41	1.71	2.25	1.63
	.67	.65	.64	.75	.60	.67	.62	.61	.71	.60	.67
Teacher Training & Education/ open	1.90	1.71	1.77	1.84	1.47	1.88	1.71	1.32	1.72	2.27	1.71
	.65	.64	.64	.68	.62	.67	.62	.55	.70	.68	.71
TT&E/low	1.87	1.65	1.76	2.02	1.41	1.86	1.78	1.25	1.66	2.38	1.75
	.67	.67	.66	.74	.61	.67	.63	.51	.71	.62	.71
TT&E/ middle	1.78	1.65	1.84	2.20	1.50	1.96	1.91	1.32	1.77	2.44	1.82
	.67	.63	.64	.73	.62	.67	.64	.56	.72	.61	.72
TT&E/high	1.75	1.61	1.72	2.01	1.34	1.89	1.87	1.27	1.66	2.32	1.92
	.64	.64	.67	.74	.55	.68	.63	.52	.72	.64	.78

Information Sciences/ open	1.72	1.49	1.65	1.86	1.70	1.68	1.70	1.34	1.80	2.12	1.60
	.65	.63	.62	.74	.70	.67	.63	.57	.72	.65	.65
IS/low	1.66	1.47	1.58	1.82	1.79	1.74	1.71	1.37	1.85	2.19	1.55
	.66	.60	.64	.72	.74	.67	.64	.56	.74	.65	.62
IS/middle	1.68	1.59	1.86	1.96	1.74	1.78	1.83	1.35	1.78	2.21	1.61
	.66	.64	.64	.74	.73	.68	.69	.56	.71	.66	.69
IS/high	1.65	1.60	1.81	2.03	1.73	1.84	1.86	1.35	1.82	2.19	1.70
	.62	.63	.62	.77	.71	.71	.66	.58	.75	.68	.68
Overall average	1.72	1.58	1.73	1.98	1.54	1.80	1.79	1.35	1.76	2.24	1.64
F value	4.953	3.874	8.047	11.245	10.652	5.684	6.552	12.027	3.587	8.480	4.619

All F value is significant at $p<.0001$

Upper part of value indicates the average of responses including Frequent=4, Often=3, Seldom=2, Not at all=1. Lower part of value indicates SD

Table 13.4 Sense of importance of post-university careers by type of university/academic ability

	Low grade at national universities	Middle grade at national U	High grade at national U	Low grade at public universities	Middle grade at public U	High grade at public U	Low grade at private universities	Middle grade at private U	High grade at private U	Average of total
To change the society	56.6	59.2	61.3	57.2	57.8	57.8	57.5	59.4	59.9	58.5
Possibility to gain high income	77.3	81.3	81.3	87.6	84.4	82.4	82.1	82.8	82.3	82.4
Branding and prestige	54.9	55.3	60.8	58.7	55.6	58.1	58.7	60.7	62.8	58.4
Stability of life	92.6	95.7	93.9	94.5	97.3	97.5	92.3	95.5	94.5	94.9
Creativity or originality	61.9	59.7	61.2	61.7	52.7	54.3	63.8	65.8	64.9	60.7
To express self	65.5	67.7	66.6	67.2	62.3	59.2	69.7	73.4	73.1	67.2
Availability	57.9	61.4	59.2	61.7	68.4	66.1	68.2	68.7	67.7	64.4
To have flexible time	81.9	86.2	83.8	82.6	86.9	83.9	86.6	87.5	85.7	85.0
To show the leadership	38.1	39.2	43.5	40.8	35.7	45.0	43.1	45.9	47.6	42.1

Total of proportion answering ‘Yes’ and ‘Yes to some extent’

suggests a desire for stability. All groups also had a high percentage of students who hoped that "free time" would be maintained even while working.

Regardless of the differences in their academic ability, private university students exceeded the average for almost all items concerning perception of post-university careers. The following items obtained from PCA were especially emphasized: "Creativity and originality," "Self-expression in work," and "Possibility of demonstrating leadership." These items belong to the factor "Desire for challenges." Compared with public university students with middle and high academic ability, private university students with low, middle, and high academic ability scored 10 points higher for these items. At private universities, there is a great tendency to devote resources to programs that foster career consciousness from an early stage as part of students' first-year experience. These results show that that support for career formation is permeated in private universities.

13.7.3 Determining the Factors of Extra-school Study Time and Aspirations Toward Career Challenges

We were able to understand the relationships between hours of study outside school and two variables: (a) the type of school/academic ability, and (b) field of specialty/difficulty of department. We were also able understand the relationship between high school learning behavior and the field of specialty/difficulty of department. For the low academic ability group, private university students had shorter hours of study outside school during their third year of high school. For the high academic ability group, students maintained a longer hours of study outside of school during their third year of high school for all fields of specialization. These findings revealed that while learning behavior during high school, which serves as the basis for studying in universities, differed depending on the area and difficulty or the field of specialization, but that it is not a significant factor. However, we do not know what regulates the amount of time spent studying outside of school because previous analysis has not considered the interaction of the variables. To investigate how different variables regulate the amount of time spent studying outside of school, we conducted multiple regression analysis with this variable as the dependent variable and the following as independent variables: the study behavior factors summarized by PCA, "Positivity toward learning," "Sense of challenge toward learning," "Interest in learning a wide range of subjects," type of university, deviation value category, academic performance during high school, and field of specialization.

A career is an expression of self-actualization and self-selection. If the core of career education is self-definition, "Desire for challenges" is clearly essential in building a career that provides lifelong self-actualization. We conducted multiple regression analysis with "Desire for challenges" as the dependent variable, and examined what variables had an effect on students' aspiration toward challenges.

Table 13.5 Results of multiple regression analysis of determining factors "Hours of study outside school" and "Desire for career challenges"

Dependent variable	Learning hours outside classes	Dependent variable	Career/ challenge-oriented	
Independent variables	Beta	Independent variables	Beta	
Selectivity	0.264	Positive attitude for learning	0.258	
Challenge to learning	0.152	Challenge to learning	0.25	
Dummy/types of institutions	0.119	Comprehensive interest in learning	0.141	
Category of academic performance during high school	–0.058	Learning hours outside classes	–0.038	
Positive attitude for learning	0.054	Dummy/types of institution	0.035	
		Category of academic performance during high school	–0.029	
Fixed	1.803	Fixed	–0.016	Not significant
Adjusted R square	0.158	Adjusted R square	0.143	

All beta value and one fixed value are significant at the level of $p < .001$

The left side of Table 13.5 shows the results of multiple regression analysis of time spent studying outside school as the dependent variable. The results showed that "Categorization of deviation score," "Type of school dummy," and "High school performance group" had significant effects on study time, as did the learning behavior factors "Sense of challenge toward learning" and "Positivity toward learning." Third-year high school students who studied often outside of school had high levels of academic ability during high school currently belong to national universities with high deviation scores, and have a sense of challenge and positivity toward learning. Studying in this case may mean studying for the sake of entering national universities, which have high deviation scores. Although the field of specialization did not have a significant effect, studying with the goal of entering a particular area of study may still be a factor affecting study hours.

The determining factors of a desire for career challenges, shown on the right side of Table 13.5, are "Positivity toward learning," "Sense of challenge toward learning," and "Interest in learning a wide range of subjects." The results suggest these learning behavior factors have an effect on the desire for career challenges, whereas study time during high school had little effect. In summary, although their academic ability is not as high, private university students with a positive attitude toward learning and an interest in a wide range of challenges represent the student group with a desire for career challenges.

13.8 Conclusion

In this chapter, I have offered an account of the trends and issues that globalization and massification present for Japanese higher education. Above all, these issues raise the issue quality assurance and accountability for to undergraduate education, learning outcomes and internationalization, as the "universal standard" has become indispensable in today's knowledge-based, global society. Governments through policy and universities through teaching have sought to offer international opportunities while ensuring accountability. At the same time, Japanese universities still face a domestic issue: massification requires them to educate ever increasing numbers of students who may not always be fully prepared for the demands of post-secondary education. Even quite recently, Japanese have viewed colleges and universities as "gatekeepers" that confer social status, secure elite occupations, and guarantee both social and financial benefits through the college entry screening process. Policy enacted by the Ministry of Education, Culture, Sports, Science and Technology has contributed to the transformation of Japanese universities into institutions of teaching and learning, and not research alone. As a result of this policy shift, Japanese universities have developed assessment systems to measure learning outcomes. This shift, along with the introduction of FYE programs, is in response to the challenge of massification. However, as the data of first year students shows, there is less articulation between high school and university regarding learning experiences. Also, there are various types of FYE according to the types of higher education institutions.

Japan now looks to functional differentiation of higher education to achieve more effective budget management and to ensure learning outcomes. In such environment, FYE becomes indispensable for freshmen to motivate learning at universities. It is important to promote more diverse types of FYE and assess the outcomes of FYE in each higher education institution.

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Part III
Challenges Facing Mass Higher Education

Chapter 14
Who Benefits from Taiwan's Mass Higher Education?

Chuing Prudence Chou

14.1 Introduction

Since the late 1980s, governments in many countries have gone through a process of political democratization and economic transformation while responding to the worldwide trend of neo-liberalism and globalization. Consequently, higher educational institutes (HEIs) have restructured and reorganized their systems, with an attempt to increase institutional autonomy, responsibility, and efficiency. Through governmental policies of deregulation and liberalization, each institution is expected to become more competitive and accountable (Giroux 2002). Taiwan followed this worldwide trend and reinforced an overall market mechanism within the higher education system which contains all aspects of transformation, not only in the changing profile of instruction and learning, but also in the pace of a major increase in the volume of HEIs and students.

Over the past two decades, Taiwan's higher education has experienced an unprecedented growth with the number of public universities and colleges growing from 15 to 51 (MOE 2010a). A total of 120 HEIs have been established or restructured into universities and colleges from 1986 to 2010, bringing the total number of HEIs to 163. The transition from elite higher education to mass higher education for all in Taiwan seems to replicate the world trend of university expansion (Tang 2003; Yang 2001; Trow 2006).

Specifically, the university enrollment rate increased from 60.45 % in 1998 to 97.1 % in 2008 and dropped to 88 % (the net rate is 69.9 %) in 2012 (MOE 2013a, 2014a). In the other words, on average the higher education gross enrollment rate in

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Taiwan over five years is more than 85 % (MOE 2013a). This increase indicates that Taiwan's higher education system has entered the stage of mass higher education (Tang 2003; Trow 2006). It should be noted however that this expansion of higher education is mainly a result of the increase of private institutions in Taiwan since the mid-1990s.

As a consequence of this education expansion, resources for HEIs have become scarce and constrained. Before the expansion, HEIs did not need to compete for external funding and student enrollment because educational efficiency and accountability was not the priority of the government which provided funding on a regular basis (Gai 2004). Since the early 1990s, higher education in Taiwan has experienced tremendous expansion. As the number of HEIs has risen, about one million Taiwanese students were enrolled in more than 160 universities during the academic year 2009–2010 (Chou and Ching 2012). In order to reduce the financial burden on the government, the Ministry of Education (MOE) started to initiate policies to support all public HEIs in Taiwan with only 80 % of the total budget, while leaving the remaining 20 % to the financial resources of individual institutions. The proportion of government funding continues to shrink for most public HEIs. Many leading universities, such as Taiwan University, have gone through budget cuts of 50 % or more. In addition, the Educational Funding System was introduced to ensure the best use of government funding. All revenue and expenditures are now monitored by the Board of Educational Budget allocation, established in 2001 (Tang 2005). Universities are under regular review and evaluation for budget allocation based on accountability and efficiency.

According to studies, mass higher education has created mixed results in terms of educational equality and opportunity (Shin and Teichler 2014; Shin 2013; Yang 2001). Statistically, students of all ethnic backgrounds and social classes have more access to universities according to their personal capacity and academic performance. But the education resources made available to students and the tuition they pay tell a different story (Chen and Chen 2009). Nations around the world face the same challenge after entering the stage of mass higher education, namely, how does a nation maintain educational quality while preserving equal educational opportunity for all?

Research shows that most higher education expansion derives from the increase of non-elite HEIs, especially from private sectors in most countries (Kim and Lee 2006). As a result, a growing stratification and class reproduction has become apparent in higher education following the expansion. According to Astin and Oseguera (2004), factors such as socio-economic status (SES), gender, and ethnicity continue to affect educational opportunities in an era of global expansion in higher education. The resource gap between top/benchmark universities and other regular HEIs accelerates regardless of a much greater access available to higher education for the general public (Cheng and Jacob 2012; Astin and Oseguera 2004; Clancy and Goastellec 2007). This widespread phenomenon is very evident in China, Japan, South Korea, the United States, and Israel (Wu 2008) and Taiwan is no exception.

According to the latest White Paper for Expertise Cultivation (MOE 2013a), Taiwan society has entered an era of aging and declining birthrate following the higher education expansion in the mid-1990s. New issues of higher education have surfaced, such as:

1. A less friendly environment for learning and instruction due to the market-driven educational policies and the environment;
2. A significant gap between research and industry because of the paper-driven academic reward system;
3. Increasingly uneven distribution of educational resources; and
4. Continuing class reproduction and stratification resulting from unequal education opportunities (MOE 2013a; Chou and Wang 2012)

Whether or not these four major issues are contributing factors or the results of higher education expansion deserves further exploration, but all of these issues have led to a delayed and aging labor force in Taiwan, which will eventually increase the social welfare burden on the younger generation at the expense of social mobility.

The discussion below is an attempt to examine issues after mass higher education in Taiwan, including how mass higher education has reinforced or increased unequal educational opportunities regarding public resources, social class, gender, and ethnic minorities. In so doing, the author attempts to answer the question about who has really benefited from mass higher education in Taiwan.

14.2 Public Resources

As indicated earlier, the expansion of higher education has had tremendous impact on the allocation of educational resources in Taiwan. Previously, resources were allocated equally without incorporating the mechanisms of competition and assessment. Yet while the population of students in higher education increased rapidly, public funding cannot keep up with the capacity of growth. In addition, under the earlier neo-liberal economic ideology, it was expected that the private sector would invest more in education to share the governmental financial burden in order to remain as competitive as their public counterparts. Thus, over the past decade, the overall funding for education in Taiwan has increased, but government investment is declining, threatening the quality of higher education and its operation (MOE 2012; Chou 2007).

In addition, since the mid-1990s, university funding has increased proportionally from 23.15 to 38.64 %. According to the Educational Expenditure Proportion of GDP (MOE 2009a), the budget for higher education has remained at 1.9 % of GDP since 2002, which comprises more than one-third of the total education budget in Taiwan. But the public funding for any new program or organization has decreased due to the economic recession and governmental budget cuts. In nearly two decades, the overall education expenditure distributed to public HEIs has declined and accounts for one-third of the budget shortage (Song 2006).

Although public funding for public HEIs was secure for decades, government policies in recent years have been geared toward the equitable redistribution of funding between the public and private HEIs. In order to enhance social mobility and relieve the tuition burden of the disadvantaged students who attend private HEIs, a 'performance-based' competition system between public and private HEIs was incorporated to encourage more institutional accountability including fund raising and a tuition increase policy (MOE 2012).

The decrease in public expenditure has resulted in the rise of private investment on an annual basis, which has led in turn to a new form of educational inequality. In other words, those who can afford the extra costs can obtain better educational opportunities, and consequently, social mobility for the less advantaged group becomes limited (Chou 2007).

14.3 Unit Cost per Student

Obviously, the expanded number of universities has produced more students. For example, there were 183,000 more students from 1991 to 1998, which slowed the pace of the growing unit cost. The growth in the number of universities in Taiwan has continued over the last decade, with more than 90 % of students between 18 and 22 now admitted to HEIs. The overall budget with the unit cost of education in universities and colleges (from NT $1,695 in 1980 to NT $5,832 in 2008) thus increased to the highest educational expenditure in history (MOE 2010a).

14.4 Tuition

The budget that HEIs receive from the MOE has declined from 62.7 % in 2000 to 49.2 % in 2006, whereas the proportion of tuition income has increased from 12.83 to 21.59 % (Chou and Ching 2012).

Tuition accounts for more than 60 % of the overall operation budget of private universities, but only 7.6 to 20 % for public HEIs (Chen and Chen 2009; Lü 2005). By contrast, students who attend private universities pay on average more than twice as much of the tuition as their public counterparts. In other words, tuition at the first-tier public universities is relatively low (from one-fourth to one-fifth of student unit cost), and students enjoy better educational quality and social prestige. Consequently, these students are more competitive in the job market after graduation.

Because university tuition has been steadily rising as public funding is reduced due to the expansion, university students have been faced with fee increases which have become an extra barrier for those from disadvantaged background (Chou 2007).

14.5 Public/Private Discrepancy

Currently in Taiwan the proportion of students who attend public and private HEIs is about three to seven. In other words, students at private HEIs represent 70 % of the total number of students, are mostly from less privileged family backgrounds, and receive less government funding.

In addition, there has been a growing budget discrepancy between public/private and top/regular HEIs over the last decade. From 1999 to 2007, the average expenditure data per university student shows a declining budget allocation according to university ranking – the higher university ranking, the greater the expenditure per student. For instance, since academic year 2007, most higher education expenditure has been allocated to the top research national universities, such as National Taiwan University (NTU), National Tsing Hua University (NTHU), and National Chiao Tung University (NCTU). The rest of the private HEIs have the lowest expenditure per student. The difference between the highest and lowest institutions can be more than three to four times per year if universities with a medical school are included (Wu and Wang 2008). Specifically, the average expenditure per university student at NTU, NTHU, and NCTU was more than NT$250,000, with NTHU receiving more than NT$300,000 every year. This means that yearly expenditure per student received at these leading public universities was more than four times that of other private HEIs in Taiwan (Chou and Ching 2012).

This discrepancy also indicates that Taiwan invests in science and engineering at the expense of humanities-based HEIs. In the academic year 2004, expenditure per student at NTHU (more science and engineering disciplines) was 2.05 times higher than that of National Chengchi University (NCCU) (a comprehensive university renowned for social sciences and humanities), and 4.88 times that of the private Chung Yuan Christian University (CYCU). In addition, faculty members from two prestigious public universities with comparable student populations in Taiwan are funded differently – only half the humanities and social sciences faculty are granted the MOE flexible salary award, which is 50 % less than that of their competitors with a science background. This increasing cultural and reward gap has exacerbated the unequal distribution of resources between science and humanities/social sciences as a result of the university expansion (Chou et al. 2013).

There is also a "double-income" syndrome, which is found among retired public faculty who are recruited again by private HEIs and then enjoy a double income both from their monthly pension and the new institutional salary. For the private HEIs, the recruitment of these retired senior faculty members not only meets the quota of full professor rank in order to meet evaluation criteria, but also enables them to obtain more resources through their existing networks as well as increased social prestige in the name of the advancement of accountability and global competition (Chou and Ching 2012).

In addition, funding for universities includes tuition, grants from the government, donations from the private sector, and fund-raising activities. Yet, government revenue from tuition and grants constitute the major source of funding. In order to become more financially self-sufficient, leading public universities have initiated

fund-raising campaigns, gathering donations from their alumni, the general public, and business enterprises. However, those institutions which lack of a well-established alumni network have been less than successful in obtaining significant support from these sources. In addition, it is atypical in Taiwan for the private sector to donate money to universities, especially to private universities, because of the tax system and social misconceptions. Private HEIs are therefore less likely to receive external financial resources. The resultant discrepancy in public funding and tuition between the public and private HEIs has created a new form of educational inequality in Taiwan.

14.6 Social Class

In dealing with educational opportunity in the context of higher education expansion, theories such as Maximum Maintained Inequality (MMI) (Raftery and Hout 1993), indicate that educational inequality will not diminish unless educational capacity can fully meet the demand of the elite groups (Ayalon and Shavit 2004). When enrollment levels cannot accommodate all, socially elite groups will have greater access to higher education and profit more from educational expansion.

On the other hand, Effectively Maintained Inequality (EMI) which deals with issues of educational transition, tracking and stress, support the notion that student SES will continue to affect one's educational opportunities no matter how the enrollment rate fluctuates. Children from a higher SES will eventually receive better education regardless of the increased enrollment to higher education (Raftery and Hout 1993). The 2008 OECD study paints a similar picture. For example, most university students in the developed world are more likely to have highly educated fathers than their non-university peers (see Table 14.1). i.e.,

Table 14.1 Parental education background of university students by country

	Blue-collar			Higher education		
	Students' fathers	Men in same age group	Odds-ratio	Students' fathers	Men in same age group	Odds-ratio
Finland	12.5	40.6	0.9	45	49.9	0.8
France	7	19.1	0.5	–	–	–
Germany	–	–	–	63.9	69.9	0.5
Ireland	35.7	–	–	36.5	40	0.9
Italy	27.7	19.7	0.6	20	26.7	0.9
Netherlands	21.6	–	–	40.1	66.7	–
Portugal	37.5	–	–	16.2	–	–
Spain	26.4	19.8	0.6	41.6	0.8	0.8

Source: OECD (2008)

The condition remains the same in Taiwan where student socio-economic status continues to play a crucial role in access to top/benchmark universities after the expansion in 1990s. According to a nation-wide higher education survey by Cheng and Jacob (2012), the expansion of higher education in Taiwan has not necessarily resulted in equal access to higher education. An increased stratification of higher education opportunity took place after the 1990s. For example, students with the following characteristics: fathers attained a graduate or college degree, mothers obtained a graduate, college, or junior college degree, male gender, annual family income exceeded NT$1.15 million, ethnicity is Mainlander, and locale is northern and middle regions, have a significantly better chance of accessing top/benchmark universities in Taiwan (Cheng and Jacob 2012).

On the other hand, any freshman whose father has a graduate degree is four times more likely to attend a prestigious public HEI than those whose father only has an elementary certificate. Of those admitted to public HEIs, only 9 have a father educated only at elementary and junior high school level, whereas 30–40 have a father with at least a college degree. Where the father's education is at the elementary education level rather than at the graduate level, the student is three times more likely to be enrolled in a less privileged private institute of technology (Peng 2005; Chang and Lin 2012).

The effect of social stratification and class reproduction on the top leading universities has become more apparent over the years. Dr Luoh (2002), a renowned professor from NTU, indicated that freshmen at National Taiwan University mostly came from rich cultural capitals, had a higher family income and parental educational level, and from wealthy school zones. Fu (2000) and Hung and Cheng (2008) point out that students with disadvantaged backgrounds tend to be concentrated in private universities. Jao and McKeever (2006) examine how educational attainment is related to personal background. The authors conclude that while students from a Mainlander background are more likely to attend higher education where parental class and education do make a difference, the family background impact has diminished over time as the country approaches economic and political democratization.

Cheng and Jacob (2012) have also shown that the expansion of higher educational opportunity in Taiwan has replicated the preceding MMI and EMI theoretic framework. Although more and more students have access to HEIs, especially to the less selective vocational track HEIs, access to the more selective general track of the top leading universities still remains limited to the privileged group, and inequality in Taiwan higher education has not decreased over time.

14.7 Gender

Gender has become a focus of attention in mass higher education worldwide. For example, the expansion of higher education in the United Kingdom during the 1960s and 1970s resulted in a rapid rise in female participation in higher education, especially in teacher training colleges due to the high demand of teacher profession

(Ross 2003; Chen 2012). In Taiwan, more and more women have participated in higher education since the 1950s. Chen (2009) points out that as HEIs expanded, women's opportunity for universities has mounted. Even though the percentage of female university students at present is only slightly lower than the percentage of male students, their majors tend to be concentrated in women-dominated fields, like education and nursing, (Chen 2012; MOE 2013a). Most men still pursue a major in science and technology, while most women opt for liberal arts and social sciences. Statistics shows that female students continue to be the majority in the humanities and social science for the past decade (MOE 2013a). Women tend to be concentrated in education and nursing rather than science and technology, which are still dominated by their male counterparts. The percentage of female students in science and technology remains relatively low (32 %), which has not changed over the past 10 years. Liu and Chen (2007) examined the trends of gender segregation and university disciplines in Taiwan from 1972 to 2003 and concluded that gender segregation in different fields of study continues to exist regardless of mass higher education. The expansion of higher education was a result of institutional upgrading, from technology colleges to science and technology universities in the 1990s. Women continue to study in less advantaged HEIs.

In another study, Chen (2009) studied the correlation between gender and field of study in Taiwan based on three categories: male-dominated, female-dominated, and gender-neutral. It was found that more public universities offer male-dominated and gender-neutral fields of discipline than their private counterparts. The latter tend to attract more women into their female-dominated majors which are less expansive with the unit cost per student. Huang and Luh's (2008) study further suggests that women students comprise more than half at the undergraduate level, but male students tend to outnumber at graduate levels. More men than women study at the doctoral level. For example, in academic year 2012, the ratio for female to male undergraduate students was 51:49, an indicator of the gender balance that has developed from mass higher education (MOE 2014b). At the masters level, the female to male ratio is 43:5, and 30:70 for doctoral students.

Regarding job opportunities, university graduates' job opportunities were significantly impacted during 2005–2010, particularly after the global financial crisis in 2008. Although women tend to perform better academically than their male counterparts, women university graduates had more difficulties in finding a job (Chen 2012). In addition, the DGBAS Manpower Survey reports that men with a BA degree or above on average earn more than NT$60,000 per month, nearly three times more than their female counterparts (Chou and Wang 2012). Women with comparable university qualifications are not treated equally with men in the job market in Taiwan.

It is worth noting that issues of class and gender are usually interconnected. Charles and Bradley (2002) studied education in 12 advanced countries and found that women with lower SES tend to study in female-dominated fields, such as education, nursing and liberal arts. Chen (2009) echoed this finding by showing that, in Taiwan, women with a higher SES are more likely to study in science and technology which indicates that family background has a major impact on women's field of

study. But for men, the impact of backgrounds on science/technology majors seems less significant. Clearly, in dealing with educational inequality resulting from mass higher education, the effect of gender and class should not be overlooked.

14.8 Ethnic Minority

One of the unique challenges facing Taiwan's higher education expansion is the status of minority populations, such as aboriginal students and children of foreign spouses, who are most vulnerable to denial of equal access to higher education.

There were approximately 527,250 aboriginal people (2.26 % of total population) in Taiwan in 2012 (MOE 2013b). The number of Taiwanese aborigines (ethnic minorities) admitted into universities has significantly increased in the past few years. To improve the right of Taiwan's aboriginal students, the MOE has developed a series of measures to ensure their enrollment. In 2011, 38.7 % of the population received a college education compared with 18.49 % of the aboriginals. A study in 2012 of the aboriginal population over 15 years of age indicates that 85.88 % had received no more than high school or vocational high school education in 2012 (MOE 2013c). Only half of the aboriginal students attended HEIs compared to more than 85 % of their mainstream counterparts (MOE 2013c).

The university enrollment rate for aboriginal students increased from 28.7 % in the 1994 academic year to 76.3 % in 2008, more than four-fold increase over the last 14 years but still 13 % behind the mainstream. At the graduate level, there were only 18 aboriginal students attending during the 1998 academic year, representing 0.02 % of all students. By 2008, the number of aboriginal graduate students had increased to 680, or 0.4 %, a 34.7-fold growth over the years (MOE 2009b).

According to the While Paper on Aboriginal Educational released in 2010, the access rate has increased by 40 % but the average rate is still 40 % less than the mainstream students (MOE 2013a). The difference is even greater at the graduate level where aboriginal students only comprise 0.49 % in the master's level and 0.2 % at the doctoral level.

In 2013, the Aboriginal Education Law was passed to guarantee equal educational opportunity for aboriginal students (MOE 2013b). Policies have been implemented to improve the advancement of these minority groups, such as setting a special quota for admitting aboriginal students of special talent for higher education and financial aid/scholarships for overseas study. Despite this, aboriginal students tend to attend less privileged private HEIs with practical training programs, where female aboriginal students outnumber their male peers in 5-year nursing and other programs.

Another minority group is that of foreign spouses, mainly women migrated from China and Southeast Asia, and numbering approximately 430,000 in 2009 (Chou and Ching 2012). These foreign spouses often encountered difficulties in social adjustment in Taiwan, including understanding the culture, learning local languages, and looking for employment. The offspring of foreign spouses (referred to as the

"new Taiwanese sons") often experience a degree of identity confusion, and face many learning challenges at school (Chang and Lin 2012). Most are attending elementary and secondary schools, which account 11.8 and 4.09 % respectively of the total student population at each level in 2012 (MOE 2013b). Some = will attend higher education in the near future but many HEIs are not yet prepared to accept these students due to the lack of multicultural higher educational policies.

The government has responded to the needs of aboriginal groups in recent years by enacting Aboriginal Educational Law, and establishing the Ministry of Aboriginal Affairs, aboriginal resource centers, aboriginal education programs, providing counseling for foreign spouses and educational counseling programs for the offspring of foreign spouses (Chang and Lin 2012). In spite of these efforts to protect the educational rights of minority groups, aboriginal children and the children of foreign spouses continue to be disadvantaged, facing social discrimination, more complicated family structures, and economic difficulties. Compared with the mainstream population, the lower enrollment rate of aboriginals suggests they have difficulty adapting to the school system because of their disadvantaged family or economic difficulties (MOE 2010b). Despite the expansion of higher education, the educational discrepancy and unequal educational opportunity continue.

14.9 Conclusion

Over the past two decades, Taiwan has responded to the worldwide trend of neo-liberalism and globalization through a process of political and social restructuring. Many HEIs have also undergone transformation by prioritizing accountability and efficiency. Along with this transition process, higher education has expanded at an unprecedented pace, allowing access to education by the general public rather than limiting it to the elites, responding to global and local demand for educated talent. Issues such as how to maintain educational quality and preserve equal educational opportunity continue to challenge policy makers as well HEIs with the opening up of the admission quota and capacity. This chapter has focused on these issues and raised the question of "who really benefits from mass higher education in Taiwan?"

Mass higher education should advance equal educational opportunity for all, including historically disadvantaged groups, to fulfill its mission of developing highly qualified employees. However, concerns about the quality of higher education quality and equality of educational opportunities continue.

This chapter examined how mass higher education in Taiwan has encountered the same challenges as other countries. The increasing gap in public resources, social class reproduction, gender inequality, and ethnic disadvantaged educational opportunities continue in the post- massified university era. Taiwan's university enrollment rate is one of the highest in Asia, Nevertheless, as the country moves toward more of a market-oriented economy, the distribution of public educational resources is increasingly concentrated on elites from high socioeconomic backgrounds and in a few leading public universities. These elites represent a re-emerging class

system and growing inequality taking place on campus. On the other hand, students attending private HEIs in Taiwan comprise 70 % of the total student population and are mostly from lower social backgrounds but receive less government funding. Unlike the 1960–1970s, current higher education is less likely to fulfill the role of advancing social mobility among disadvantaged groups in Taiwan.

It is evident that an increasing class reproduction via mass higher education prevails among the elite groups who continue to enjoy better higher education quality at a much lower cost with good career prospects while disadvantaged groups continue to find the gap widening.

Public funding, family background, gender, and ethnicity continue to affect individuals' higher educational opportunity in Taiwan (Hung and Cheng 2008; Jao and McKeever 2006; Luoh 2002; Fu 2000) Thus the case of Taiwan has replicated the MMI and EMI phenomena in mass higher education as described earlier (Cheng and Jacob 2012; Lucas 2001; Raftery and Hout 1993). In the long term, this will negatively impact the fulfillment of equal educational opportunity and social mobility in Taiwan's higher education.

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Chapter 15
Improving School to University Transitions During Mass Higher Education: A Policy Perspective

Gerard A. Postiglione

15.1 Gaining Comparative Advantage with Increased Enrollment Rates

Much of a country's success in a globalized world rests on gaining comparative advantage in knowledge economies. This includes assimilating and converting knowledge into better prospects for faster economic growth and social development. It also includes using technology to solve problems in such areas as environment, health, and agriculture (Lin and Pleskovic 2008). Higher education can stimulate innovations in areas such as alternative energy for improving the natural environment and delivery services for community health.

Enrollments in basic education in Asia have increased steadily over the past several decades. There has also been a substantial increase in technical and vocational education and training (TVET). There are also publicly funded elite universities, several of which are aiming to approach world-class status. Private colleges and universities have captured much of the overwhelming demand for higher education from the expanding middle classes in many countries.

In some cases, private providers have saturated the market with college programs in business administration, finance and accounting, information technology (IT), and English language, to the detriment of knowledge programs in fields of science and technology. Some developing countries in the region have promoted policies that allow foreign providers to enter their higher education sectors. When foreign providers offer quality programs in partnerships with local higher education institutions (HEIs), in needed fields such as advanced science and technology, it helps to ease the demand as well as to develop capacity.

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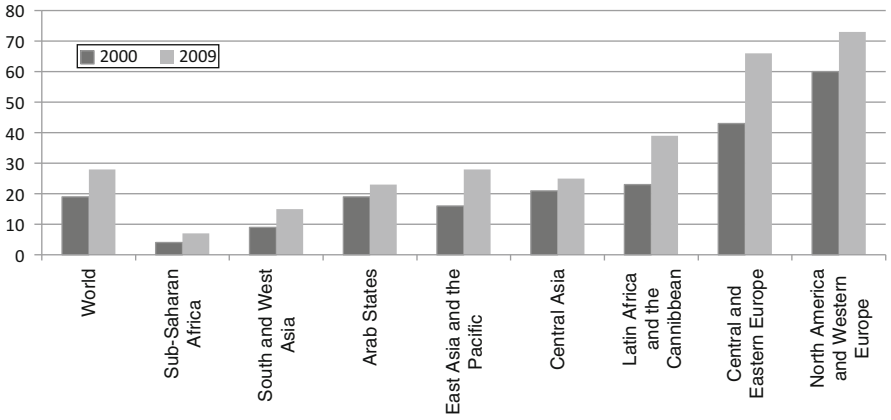

Fig. 15.1 Gross enrollment ratios in higher education by region, 2000 and 2009. Notes: (1) Gross enrollment ratio is measured by the average of gross enrollment from countries in each region. (2) Number of countries by region: Sub-Saharan Africa (45), South and West Asia (9), Arab States (20), East Asia and the Pacific (33), Central Asia (9), Latin America and the Caribbean (42), Central and Eastern Europe (21), North America and Western Europe (29), and World (208) (Source: UIS 2011)

Nevertheless, access rates for higher education in Asia still pale in comparison with North America, Europe, and Latin America (Fig. 15.1). Asia's gross enrollment ratios (GERs) remain low by comparison with most parts of the world. Yet, some regions with higher GERs are now facing with challenges to their external efficiency. Since Asia's GERs will continue to grow in the coming years, it is timely to emphasize the importance of improving the external efficiency of its higher education systems.

15.2 Strategic Alignments of Economies and Higher Education Systems

The long-term success of institutions and systems of higher education hinges upon a high degree of external efficiency—best captured by a strategic alignment of colleges and universities with the changing local, national, regional, and global environments. This is true for all HEIs, but especially so for the rapidly increasing number of second- and third-tier (provincial and private) colleges and universities. A key aspect in the context of second- and third-tier universities is a local economy that is usually less prosperous than major urban centers and relies on innovation and technological change to be driven forward.

While the demand for higher education continues to grow, developing countries in Asia will strive to diversify their economies and make them more competitive. Therefore, it is imperative to create conditions for efficiency. This includes having a clearly differentiated system of colleges and universities. Individual colleges and

universities, especially second- and third-tier HEIs, can initiate partnerships with local government and industry to improve production and innovation in agriculture, energy, communications, health care, and transportation, as well as in service sectors such as finance, law, security, and tourism.

The growing multiplicity of public and private colleges and universities necessitates a need for more ways to increase partnerships that permit them to take advantage of periods of national economic growth, while also being able to weather occasional unforeseen global economic recessions. Moreover, as economies become more integrated across the Asian region, regional partnerships in higher education can help spur innovation and technological development.

15.3 Diversity Amid Levels of Economic Development

The remarkable diversity across Asia overlays three economic categories: developed, emerging, and developing (Table 15.1). For *developed economies*, which have massive amounts of capital to invest, universities have become leaders in transforming industrial productivity. For *emerging economies*, universities have taken a greater role in absorbing and adopting ideas from other parts of the world. For *developing economies*, universities can anchor economic globalization for urbanization and strengthening industrial capacity. In *all economies*, universities should ensure that learning environments align with specific developmental

Table 15.1 Focus economies

Grouping/economy	Salient characteristics
Developing economies	
Cambodia, Lao PDR Mongolia, Viet Nam	Lower and low-middle income countries in which the higher education systems are focused primarily on system expansion, increasing enrollments, and infrastructure development
Emerging economies	
PRC India	Giant emerging economies with largest higher education systems in the world and fastest growing systems in Asia; higher education policies and practices are closely watched and influential across other higher education systems in the region; the countries have several world-ranked universities, though most continue to need quality improvement
Indonesia, Malaysia, Philippines, Sri Lanka, Thailand	Other emerging economies with well-established and growing higher education systems; now increasingly focused on quality improvement
Developed economies	
Hong Kong, China, Singapore	Small developed urban economies with mature, highly respected higher education systems characterized by slow growth
Japan, Korea, Republic of	Large developed economies with mature higher education systems of respected quality but now facing declining student enrollments

Source: Adapted from Table 15.1 in ADB (2011b)

Lao PDR Lao People's Democratic Republic, *PRC* People's Republic of China

needs, and at the same time promote student engagement, personal development, and entrepreneurship.

The developed economies already produce quality products based on their superior technological prowess. They continually create new products that are in demand and raise export levels. Their universities are incubators of research, novelty, production, and growth. The emerging economies have begun to innovate, and their universities are able to provide the conditions for learning and adoption of existing technologies. This requires support for improving mathematics and science, as well as learning environments that promote divergent thinking and entrepreneurship. The developing economies rely more upon resource extraction, assembly, and light manufacturing. Their universities can support development by providing a high-quality learning environment. They can also support applied research that can attract investment from the private sector. Their colleges and universities can place more emphasis on graduates that possess leadership and entrepreneurial skills. Higher learning in these countries can support the applications of new technologies from other parts of the world, and better legal frameworks that support their business environments. This can lead to the basic conditions for the growth of technological innovation.

At present, higher education systems in developing economies in Asia face the daunting tasks of making the best use of limited resources to ready more of their citizens for an increasingly knowledge-based economy. The ability of Asian countries to compete in a globalized world depends upon the readiness of students entering university, the availability of qualified graduates for the labor market, and the application of science and technology for creating new products.

For second- and third-tier colleges and universities, strengthening external efficiency would require that they (a) work closely with schools to ensure that students are ready for the rigors of higher learning, (b) define their missions and uniqueness within the larger system, (c) prepare students with a relevant higher education for a changing workplace, (d) graduate a sufficient number of scientists and technologists who can find new ways to improve production across diverse communities, (e) partner with the private sector to produce research that helps local communities respond effectively to economic globalization, and (f) capitalize on ways to build effective partnerships across borders. The following sections take a closer look at these requirements.

15.4 Increasing Efficiency While Widening Access: Aligning Schools with Universities

As higher education becomes less of a pinnacle on top of the education system and more of a prerequisite for human development, the role of senior secondary education in supporting students' transition to higher education becomes ever more important.

15.4.1 Degrees of Expansion

The *developed economies* of Japan and the Republic of Korea have already experienced rapid expansion of their higher education systems, as also have the tiny economic powerhouses of Singapore, Hong Kong, and China. Enrollments in most Asian systems of higher education continue to grow (Table 15.2).

The *emerging economies* have already begun to widen access, though gaps remain. The GER in tertiary education has increased in all selected countries or regions across the years except in the Philippines. In Indonesia, only 3.3 % of students from the lowest 20 % in income (and only 4.8 % from the next quintile) attend university (Triaswati and Roeslan 2003). While Malaysia has expanded enrollments, a gender gap of 65:35 exists at public universities and is also acute in the private sector (Sirat 2006). In Thailand, enrollment rates in higher education for females in 2007 reached 55 %. This is higher than elsewhere in Southeast Asia, but almost 50 % of students from the highest income quintile and less than 5 % from the lowest quartile are enrolled (World Bank 2011). As is the case in Thailand, women in the Philippines are now more likely to be enrolled in higher education than men (Gonzalez 2006).

In *developing economies*, university access is still the preserve of graduates of urban more than rural secondary schools (Cambodia), from provincial centers more than districts (Lao People's Democratic Republic [Lao PDR], and from less remote ethnic minority areas (Viet Nam) (Chet 2006; Phou 2006; Hayden and Thiep 2010).

As demand increases and higher education systems respond by growing, governments are unable to shoulder the larger financial burden. Students begin to pay more, especially at the increasing number of private colleges, and HEIs are pressured to find more efficient ways to locate and use scarce resources.

Top-tier and national flagship universities continue to attract the best students and academic staff. However, second- and third-tier colleges and universities are taking in an increasing number of less prepared students. They often do this without sufficient resources. Therefore, it becomes more important for secondary schools to improve the preparation of students for higher education.

While is some developing countries in Asia there is a need to strengthen preparation in science subjects in secondary schools, overall, in the developing countries in the region there is a need to recognize and respond to the growing diversity of the learning abilities within the expanding student base that will enter higher education. Are secondary schools preparing students for higher education? Are colleges and universities prepared to educate them? The rising proportion of students having aspirations to enter higher education presents secondary schools with the task of orienting the school curriculum toward university requirements, including higher learning styles. Even for students who do not plan to pursue university studies after secondary school, readiness for higher learning remains important, because many such students will continue their education later in life through distance or on-line higher education programs.

Table 15.2 Gross enrollment ratios (%) in higher education in selected Asian economies, 1999–2010

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cambodia	–	3	2	3	3	3	3	5	6	8	–	–
PRC	7	8	10	13	15	18	19	21	22	22	24	26
Hong Kong, China	–	–	–	–	31	31	32	33	42	56	57	60
India	–	9	10	10	11	11	11	12	13	15	16	18
Indonesia	–	15	14	15	16	16	17	17	17	20	22	23
Japan	47	49	50	51	52	54	55	58	58	59	59	60
Korea, Republic of	74	79	83	86	88	90	93	98	102	104	104	103
Lao PDR	2	3	3	4	5	6	8	9	12	16	–	17
Malaysia	23	26	25	28	32	31	29	31	33	37	40	–
Mongolia	27	30	34	36	38	41	45	47	47	48	51	53
Philippines	28	–	30	30	29	28	27	28	–	29	–	–
Singapore	–	45	45	46	46	47	–	–	–	–	–	–
Sri Lanka	–	–	–	–	–	–	–	–	–	–	–	15
Thailand	33	35	39	40	41	42	44	44	47	46	46	46
Viet Nam	11	10	10	10	10	16	16	16	18	19	20	22

Source: UIS Singapore. Singapore Education Statistics Digest_online

Note: Gross enrollment ratio is the ratio of total enrollment of International Standard Classification of Education (ISCED) levels 5 and 6 except Singapore. ISCED level 5 means "short cycle higher education or equivalent," and ISCED level 6 is "bachelor level education or equivalent." Singapore data: Higher education is Type A (university) education and Type B (practical/technical/occupationally specific programs) education

– data missing, *Lao PDR* People's Democratic Republic, *PRC* People's Republic of China

As the road to mass higher education opens, it is likely (if student readiness is not tackled) that a proportionally smaller share of new students will be prepared for higher education. At the same time, faculties in HEIs also need to recognize that the diversity of intellectual abilities requires new methods of teaching and learning on campus. In addition, the secondary school curriculum has to focus more of its attention on the required entrance examinations for university. Shadow schools are already doing so throughout the region (Bray and Lykins 2012). However, shadow schools—fee-paying centers that hold classes after regular school hours—are singularly focused on cramming for university exams, too often to the detriment of the kind of learning that builds creative centers of thought for globally competitive societies. Finding appropriate ways to improve the readiness of secondary school graduates for higher learning will improve the efficiency of colleges and universities in educating them.

In many countries, much of the senior secondary school curriculum remains focused on "getting students through their course, covering the course materials, giving tests, and expecting right-or-wrong answers" (Wang et al. 2009) despite the fact that university curricula require students to think critically and analytically. As a result, many secondary school graduates become unable to cope in university classrooms. Countries prosper when students are adequately prepared for a higher education, both in expectations and in abilities. If not, university teachers tend to "dumb down" courses, students' dropout rates increase, completion rates fall, extension rates rise, and students who manage to graduate are less prepared to enter the labor market and contribute productively.

Given the increasing public expenditures for higher education, there is good reason to be concerned about the readiness of secondary school students for higher learning. Misalignment between secondary education and higher education systems can be a key factor contributing to a nation's largest waste of educational resources. Countries in Asia are making changes to help secondary school students prepare for higher education although there is still a heavy reliance on one or more examinations. In the following sections these trends are analyzed in more detail in the context of the focus economies presented in Table 15.1.

15.4.2 Small Globally Integrated Urban Economies: Hong Kong, China and Singapore

In the case of Hong Kong, China, and Singapore, the secondary school curriculum provides graduates with increased capacity to enter university. The students are bilingual and are better able to communicate, collaborate, and work effectively across national borders. Despite the traditional Chinese cultural emphasis on rote learning, secondary school students from these two economies score near the top of international rankings on the Program for International Student Assessment, a paper-and-pencil assessment that measures 15-year-old students' capabilities in reading, mathematics, and science literacy (OECD 2011b).

Hong Kong, China's "Learning to Learn: The Way Forward in Curriculum" and Singapore's "Thinking Schools, Learning Nation" and "Teach Less, Learn More" are examples of how education systems prepare students for higher learning in university to be broad minded and independent thinkers (Hong Kong Education Bureau 2001; Singapore Ministry of Education 2012).

Since 2012, Hong Kong, China has been moving its secondary and university education from a 3+4+3 to a 3+3+4 system, with 3 years of junior secondary school and 3 years of senior secondary school, followed by 4 years of university. The new system introduces a liberal studies curriculum in senior secondary education schools, plus a foundation year of general education in the universities. The Education Bureau administers A-level examinations and provides accreditation. However, each university is autonomous and self-accrediting. There is also a Curriculum Development Institute, which assists secondary schools in aligning their curricula with higher learning.

Singapore also seeks to ensure a strong alignment between schools and universities, with a clear focus across the system on specifically stated outcomes and coordinated attention to alignment between curriculum, examinations, and assessment. There are incentives for students to learn, while teachers and principals remain accountable (OECD 2011a). Scores on secondary school leaving examinations, which qualify a student for the General Certificate of Education Examination, Advanced Level, are the primary indicators used in the university admission process (SEAB 2011). Reforms in recent years have also seen a substantial increase in universities' autonomy in the admission process. Students applying to the National University of Singapore or Nanyang Technological University in Singapore are required to sit for examinations held by these two universities. To encourage students to better prepare for their higher education, faculties in the universities are also encouraged to establish their own criteria for admission.

Hong Kong, China and Singapore broke away from their elite systems with similar schemes. The former channeled a large number of senior secondary school graduates into self-funded community colleges for associate degree programs. Likewise, Singapore addressed the need to expand higher education by providing a wider array of study opportunities in polytechnics, institutes of technology, and other HEIs with business and management programs, the arts, science, and software engineering programs.

15.4.3 Adjoining Emerging Economies: Malaysia and Thailand

Both Malaysia and Thailand have taken steps to reform the alignment between schools and universities. They share approximately similar proportions of their economies dedicated to agriculture, industrial production, and services (40 %) (Yilmaz 2010). In recent years, they have lowered the path for entry into higher education, have emphasized multiple paths to degrees, and have paved the way for private education institutions to take a larger role. Malaysia and Thailand differ in

student intake to academic programs and higher TVET. Academic enrollments account for about 52 % in Malaysia and 84 % in Thailand.

In Thailand, after completing the upper secondary track (academic or TVET), students enrol for a postsecondary non-degree program or a vocational education diploma (or a technical bachelor of arts degree), or go through a more traditional general education. Students can pursue higher education through a number of routes: public universities, autonomous universities, technology universities or institutes, community colleges, or private universities (Bovornsiri 2006). Thai students have access to 12 years of free basic education, which has increased the demand for higher education. Transition rates from secondary to higher education institutions (excluding open university enrollees) increased from 75.9 % in 1999 to more than 80 % by 2004. Enrollments in all higher education programs grew by 47 % (or an average annual rate of 6 %) between 1999 and 2008 from approximately 1.6 million to 2.4 million students (Yilmaz 2010).

Thailand's dual system of university entrance (central and regional) under the Commission of Higher Education provides flexibility to the diverse array of receiving institutions. In the Central University Admission Scheme, students can apply to as many as four institutions and four fields of specialization. Results are weighted, including performance in secondary school (10 % on grade point average [GPA], 20 % for the GPA of core subjects (which increases year by year to 40 %), 35–70 % for the results of the Ordinary National Education Test [O-NET], and 0–35 % for the Advanced National Education Test [A-NET]). Results of interviews are also considered but not weighted. The weighting of the results is still changing. The National Institute for Educational Testing Service (established in 2005) is responsible for the O-NET and A-NET examinations. Thailand also has a direct admission system more focused on local institutions. In this scheme, each HEI sets up a quota for students from the province where it is located, which may be as high as 60 %. This provides flexibility for regional universities to address needs specific to their provincial growth and development (Bovornsiri 2006). Nevertheless, there has been considerable opposition from the public over the effect of these competitive examinations on fostering local wisdom and the creativity of Thai students.

In Malaysia, examination results are still the main criterion for admission to universities. In the last few years, with the expansion of the Open University of Malaysia and establishment of Wawasan Open University, it has been possible to consider student's prior learning and age for entry to paths leading to university qualifications. However, secondary school exit qualifications greatly differ, because they cater to students sitting for a variety of qualifications, such as the United Chinese Exam, Malaysian Certificate of Education, and Malaysian Religious School Certificate. Each exam qualification has a different focus and curriculum, depending on the specific group of students. The main criterion for admission to universities in Malaysia is examination results. The minimum requirement is one of two exams, or a matriculation certificate.

Ethnic quotas also play a key role in admission (Lee 2004b). For example, there is a pre-university matriculation program designed to admit *bumiputra* (indigenous) students into the scientific and technical fields in universities, as well as matriculation

catering for Malaysians of Indian origin. Such programs are equivalent to Form 6 or A-level. Since 2003, admission to public university has been based on merit. Top public universities enrolled a high proportion of Malaysians of Chinese origin, particularly in competitive courses such as medicine, pharmacy, dentistry, and law. Private universities and university colleges enrolled a high proportion of international students. Malays, who are more concerned with graduate employment and competencies in the English language, prefer to send their children to private higher education institutions.

The minimum requirement is an STM (sijil pelajaran Malaysia — like O-levels after 11 years), STPM (sijil tinggi pelajaran Malaysia — like A-levels after 13 years), or matriculation certificate (for *bumiputras* and other ethnic minority groups and only science or accounting streams, equivalent to the A-levels). Admission to university requires results in one of three public national examinations (SPM, STPM, or matriculation). The first two examinations are administered under the Ministry of Education. In the past, each university had its own matriculation program. After 2000, they were centralized under the Ministry of Education (Lee 2004a).

For public universities, admission is open to students who complete pre-university level matriculation, or Form 6 with the Malaysian Higher School Certificate examination (STPM.) Although preferential admission for indigenous students (*bumiputras*) continues, it has had less influence since 2002. In private universities, there are multiple paths to a degree, and twinning is increasingly popular. There is open enrolment at polytechnics and community colleges. Higher weighting may be given to the underprivileged and marginalized groups.

Both Malaysia and Thailand hope to expand access and guide graduates of colleges and universities into the workplace in a way to satisfy both student aspirations and national development plans. They aim to provide quality learning environments, and knowledge and skills relevant to the workplace. This requires more efficient resource allocation with a sustained focus on equity, and a continually strengthened system of quality assurance (QA) and accountability. Social and cultural factors continue to play an important role in these richly diverse systems of higher education, while personnel and resource decisions also continue to gain a closer alignment with performance based-results.

15.4.4 Emerging Island Economies: Indonesia, Philippines, and Sri Lanka

In Indonesia, students can take the State University National Entrance Examination after passing their final secondary school examination. However, there is an increasing high rate of failure in the final secondary school examination, popularly blamed on low-quality teachers. This trend brought the secondary school graduation rate down to 90.7 % in 2010 in the capital city Jakarta, and this is only slightly higher than the national average graduation rate of 89.8 % (Setiawati 2010).

There is more demand for public rather than private HEIs in Indonesia. While there are only 82 public HEIs (3.11 % of total), 63.70 % of high school graduates applied to these institutions in 2007, with only 27.49 % gaining acceptance (Susanti 2011). The low admission rate of public universities and high competitiveness of college access increased the competition for high quality secondary schools and private tutoring. As a result, students from urban areas and high-income families have an advantage in accessing public universities, while their counterparts from low-income families are more likely to go to private universities (Buchori et al. 2004).

Nizam (2006) argues that the students need access to a high-quality senior secondary school and extra special training in a "private study center" (*bimbingan belaja*r in Bahasa Indonesia) to pass the entrance examination. High-quality secondary schools and *bimbingan belajar* are mostly located in urban areas, and only students from middle- and high-income families can pay for the extra training. Based on the last survey, only 3.3 % of students from the lowest 20 % of income groups successfully pass the entrance examination whereas 30.9 % of students from the highest income quintile get university seats (Nizam 2006).

In theory, all students in the Philippines can gain access to higher education if they meet the admission criteria (and can meet the tuition and living costs). However, admission requirements remain dependent upon individual HEIs. Entrance to HEIs is dependent on the possession of a high school certificate of graduation and in some cases on the results of the National Secondary Achievement Test (NSAT), or in many HEIs the results of their own entrance examinations. The NSAT is administered to fourth-year high school students to gauge the quality of the individual institutions they attend; it was not designed as an admission test, but has nonetheless served that purpose for some institutions. Privately administered testing programs through the Center for Educational Measurement are also widely used by colleges for admissions purposes. The two most common ones are the College Scholastic Aptitude Test and the Admission Test for Colleges and Universities (World Education News and Review 2004).

From 1973 to 1994, the National College Entrance Examination was used for admission to postsecondary degree programs; it was abolished and replaced by the NSAT because it was considered by many not to be effective enough in differentiating student applicants. In addition, the Philippine Education Placement Test is a national examination designed to evaluate the grade level of students returning to the school system or seeking admission to college based on knowledge and skills gained through formal and non-formal methods (World Education News and Review 2004).

Admission to public universities can be very competitive in the Philippines This is particularly the case at the University of the Philippines campuses, which usually accept fewer than 20 % of applicants. Entrance to this University is based on satisfactory performance in the University of the Philippines College Admission Test (UPCAT) and the weighted average of final grades obtained in high school. Applicants who take the UPCAT are ranked based on their admission grades. The top-ranking applicants, based on the quota and cutoff grade set by each campus,

qualify (University of the Philippines 2011). Other universities maintain their own admissions criteria, which may include a school-administered admissions test, secondary school grades, interview, and medical exam.

In Sri Lanka, students have to take secondary leaving examinations known as "A-levels," and universities will use the A-level test scores as a criterion for recruiting new students. Students can choose to take the A-level tests organized either by Sri Lanka or by the United Kingdom (UK), and they can use the scores earned in later examinations to apply for universities in other Commonwealth countries. There are 17 universities, two of which are Buddhist colleges. Public universities provide free undergraduate education to students. Fewer than 16 % of those qualified get access to state universities. This low admission rate leads to an exodus of around 8 % of qualified students leaving Sri Lanka to study overseas in UK, India, Australia, United States (US), and People's Republic of China (PRC), among others. The low state university admission rate also leads to increased numbers of applicants to the Sri Lanka Open University and local private HEIs. However, the high tuition fees for private HEIs causes some students to drop out. Relying on the General Certificate of Education (GCE) Advanced Level Examination also places students from remote and rural areas at a substantial disadvantage in college access. Urban students are more likely to have higher scores in the GCE Advanced Level test and thus have more chances to gain access to state universities.

15.4.5 Transition Developing Economies: Cambodia, Lao PDR, Mongolia, and Viet Nam

In Cambodia, the pathway to higher education has been relatively inflexible. The primary access route is successful completion of senior secondary school or an associate degree, and the university entrance examination. Both the standards and access rates in higher education are low by international measures. Participation rates in higher education are low (402 per 100,000), but the urban–rural gap is significant with 45 % of students from the capital city, and 40 % from urbanized provincial regions (Chet 2006).

In some universities, for example, Paññāsāstra University of Cambodia, prospective students are also required to take an examination organized by the university itself, and only students with passing scores are accepted (Paññāsāstra University of Cambodia 2010). Students in urban areas have access to supplemental and tutor schools that help them cram for university entrance examinations. For example, Phnom Penh produces half of the entrants to higher education (Chamnan and Ford 2004). As Cambodian students enter higher education in greater numbers, both in-country and across the borders, there is an increasing need to align secondary school education with university learning.

In the Lao PDR, students gain access to universities in two ways (Xaysomphou 2008). The first channel is entrance by quota. Quota students are selected and

assigned to different universities by the Ministry of Education, which scrutinizes students' secondary school transcripts and the results of their secondary school leaving examination. Students who do not gain access through entrance quotas can take the national entrance examination and be selected by colleges and universities. The national entrance examination is centrally administered in the national capital and the capital city of each province. Although college access rates have increased rapidly in the past several years, women and ethnic minorities are still disadvantaged.

In Mongolia, the Master Plan for 2006–2015 stresses the importance of better coordination of enrollment in higher education (Government of Mongolia 2006; World Bank 2010). The government of Mongolia hopes to broaden services provided by HEIs and make them more open, as well as coordinate the activities of HEIs with the national economic structure and labor market demand. In particular, there is an effort to provide support for those studying in areas of engineering, technology, biology, natural science, teacher education, and agriculture. The aim is to increase the number of higher education students in these disciplines with the help of a policy that provides soft loans and grants for students from the State Training Fund (ADB 2011b).

Final national secondary school examinations are subject-based and administered by the Education Evaluation Center, an independent body under the Ministry of Education, Culture and Science. Results from these examinations are used by HEIs for initial screening of potential candidates for admission. HEIs are supposed to employ additional selection instruments such as essays and references when making final decisions about admission. However, lack of capacity to efficiently handle the additional selection steps hampers the efforts. There is still a long-term tradition that only secondary school final examination results should be used for selecting new entrants.

Viet Nam has also grappled with the problem of school-university alignment (Dai 2006). The entrance examination system for higher education has undergone significant changes, and the process has been characterized by certain back-and-forth steps. Initially, a unified examination system was modified into a multiple entrance examination format to align with Viet Nam's higher education heritage from the Soviet era, which typically included a range of specialized institutions. However, the examination system has since become reunified, and universities no longer have their own entrance examinations.

Entrance to higher education is highly competitive, due in part to Viet Nam's Confucian heritage, which places the emphasis on the students, as well as on the university staff who mark the entrance examination papers. The Ministry of Education and Training (MOET) has tried to reduce this pressure by publishing examination items in various subjects (viz., mathematics, physics, chemistry, biology, literature, history, geography, and foreign languages). This helped students to prepare, but also fostered rote learning and stifled creativity. As a result MOET began to call for standardization across standards of admission, examination items, organization, and use of results. MOET therefore established an examination board and a standard examination for all colleges and universities.

Three entrance examinations have been established: one for testing knowledge in mathematics, physics, and chemistry for students aiming to major in engineering, computer science, or natural science; one that tests knowledge in either (a) mathematics, chemistry, and biology for students who aim to major in agriculture, medicine, or natural science; or (b) literature, history, and geography for students set to major in humanities or social sciences; or (c) literature, mathematics, and foreign languages for students who will major in foreign languages, foreign trade, or international relations; and a third examination for those who will enter community colleges. There has been a shift to use objective tests, rather than written tests, which relieved some of the marking pressure on university academic staff. Although the back-and-forth steps experienced in Viet Nam to realign college entrance examinations with school subjects have been counterproductive, the process reflects the dynamics of Viet Nam's expanding economy.

15.4.6 Developed Economies with Universal Higher Education: Japan and Republic of Korea

In Japan, the pathway for high school graduates to colleges and universities has become more diversified since the 1990s. The scores earned in the National Center Test for University Admissions (NCTUA) are used by many universities as one of their selection criteria. State universities also administer their own tests for recruiting new students, and passing the NCTUA is supposed to be a prerequisite for sitting these institutionally held tests. Some private institutions also use the test they give as the only criterion for admission. Although the NCTUA is under the management of the National Center for University Entrance Examinations, students can still choose the subjects for the test according to the requirements of the prospective universities. To alleviate the pressures suffered by students and their parents, the NCTUA is designed to cover only the knowledge learned in classrooms. The NCTUA has five sections (Japanese, math, social science, science, and foreign languages) and covers 31 subjects. Candidates can choose five subjects from each of the five sections for testing according to the relevant requirements for admission (NCUEE 2012).

The rapid development of higher education in Japan has to a large extent been achieved through the expansion of private HEIs, which already in the early 1990s accounted for more than 80 % of HEIs nationally (Ichikawa 1991). The overall expansion of the private sector and the competition for prospective students drove many private institutions to lower their criteria for admission. In some cases, only secondary school records and reference letters from principals are needed for admission. The evaluation of students' preparedness for college education is still under question.

In the Republic of Korea, access to top universities is very competitive, since it engenders an academic pedigree and a guarantee of the best jobs. Prospective college students are required to take the College Scholastic Ability Test (CSAT). The CSAT has five sections: Korean language/reading, mathematics, English, various

"elective" subjects in the social and physical sciences, and foreign languages or Chinese characters and classics; each section except English and Korean language/reading covers different subjects tailored for candidates from either humanities or sciences and engineering. Universities then determine whether or not to accept a student according to the CSAT results and their high school records. Students' high school records can account for 40 % of the overall admission decision. Universities can also organize examinations and interviews for their special needs (KICE 2010).

Some admission programs are also available for students with special needs. For example, students from farming and fishing villages as well as handicapped students can apply to universities through this special screening process. The Ministry of Education sets the dates for these special examinations, and students can apply to several universities at once if the dates of examinations organized by universities are different. The competitiveness of the admission system puts considerable pressure on students and their parents, increasing the demand for tutoring schools to prepare students for the examination. To alleviate the pressure, the government plans to launch a new program in 2014 to reform the college entrance system. Under the new system, the CSAT will be held twice a year, and students can decide whether they will take one or both exams. In this way, they may choose the better of the two scores they receive (Chosunilbo 2010).

15.4.7 Asia's Giants: People's Republic of China and India

The PRC has the largest higher education enrollment in the world. India has the most colleges and universities in the world. Together, they may one day graduate more students than the rest of the world combined. In the long run, the higher education systems of PRC and India will increasingly have an enormous effect on other Asian systems of higher education. Together they can influence the possibility of establishing a harmonization process for degrees and QA, similar to the so-called Bologna Process in Europe,[1] that will further help integrate the region for human resource and economic development.

As the PRC loses its labor cost advantage, maintaining the country's economic ascent rests heavily upon boosting the access rate to its higher education system, including the link between schools and universities (Fig. 15.2). In 2009, the PRC's service industry comprised only 42 % of its gross domestic product (GDP), while it was 64 % in India and 77 % in the US (World Bank 2009). Generating new products and services will require universities to foster creative and innovative thinking. It is easier for this to happen in universities if schools align their curriculum to prepare

[1] In the Bologna declaration of 1999, European ministers with responsibility for higher education initiated the Bologna process by setting out the goal of establishing the European Higher Education Area by 2010. After a decade of reforms, in April 2009, ministers reaffirmed their commitment to continue the Bologna process and expressed the need to consolidate reforms in the period towards 2020 (EUA 2011).

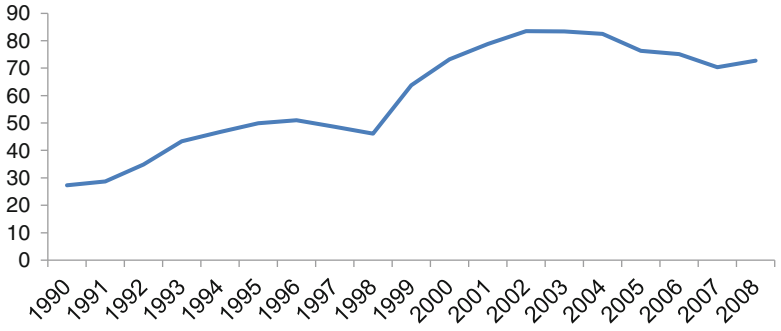

Fig. 15.2 PRC's increasing promotion rate of senior secondary school graduates to higher education institutions. Note: Promotion rate of senior secondary school graduates is the ratio of the total number of new entrants admitted to HEIs to the total number of graduates of regular senior secondary schools (Source: Ministry of Education 2008)

students for such higher learning, and universities' curriculum is geared to develop these learning areas.

The recently promulgated National Outline for Medium- and Long-term Education Reform and Development (2010–2020) targets a higher education enrollment rate of 40 % by 2020, by which time 20 % of the working-age population are predicted to have university degrees. Given its demographic profile, the PRC should foster talent in the shrinking proportion of youth who will have to support an increasingly ageing population in the future. The country will reach its peak demographic period in 2015–2020, when the working age population will account for about 71 % of the total, and will decline to 61 % by 2050 (Hu 2011).

The National College and University Entrance Examination (NCUEE) remains the main determinant for entering higher education. Depending on the number of applicants each year, provincial- and national-level institutions adjust their intake of secondary school students, while also providing preferential access and sometimes remedial education to ethnic minority students. At the same time, the NCUEE is under constant revision, with increased emphasis given to students' ability to think creatively, which more closely approximates the nature of learning in higher education (MOE, PRC 2010). The secondary school leaving examination system is also being reformed to encourage schools to build a complete dossier for each student, including course transcripts, teachers' evaluation of students' moral fabric, and students' experience in community service.

Senior secondary school graduates are encouraged to apply to top universities and attend the examinations organized by individual universities. The exams held by these universities can be more flexible and focused on students' abilities in innovation and adaptability to the learning styles in HEIs. Students, however, are still required to take the NCUEE even if they pass examinations held by individual universities. Students can be accepted to specific universities if they earn 'cutoff scores' in the NCUEE, which are usually lower than the scores actually needed to apply to these universities. The government is attempting to decrease the influence of the NCUEE, which is still viewed as encouraging rote learning and limiting innovative

thinking. Moreover, professors are also encouraged to offer courses in secondary schools to help students gain more of an understanding about studying and living at a university (Zeng 2010).

In 1950, India had 263,000 students in 750 colleges affiliated with 30 universities. In 2005, 11 million students were enrolled in 17,000 colleges affiliated with 230 universities and non-affiliated university-level institutions. In addition there were about 10 million students in more than 6,500 vocational institutions. The enrollment rate has been growing at 5.1 % per year (Kaul 2006). Nevertheless, only 6 % of the relevant age group (18–23 years old) was in higher education (University Grants Commission 2003). In 2010–2011, approximately 16.9 million students were enrolled in 564 universities and 33,000 colleges (University Grants Commission 2012).

Students are admitted to university based on scores in one or more secondary leaving or entrance examinations administered by a variety of entities: the national government, provincial governments, individual institutions, and groups of institutions (e.g., management- or IT-focused institutions in a particular province). Institutions or consortia set their own requirements. This includes the specific examinations required, the weighting of each, and cutoff scores. Prospective students can apply to individual institutions or groups of institutions as part of a centrally coordinated process. A certain proportion of seats in public institutions is set aside for members of specific social castes (Agarwal 2006; Helms 2008).

Admission requirements vary among universities and subjects; they are known to be extremely high for India's very prestigious science and technology universities. Students who apply for these science and technology universities take the Joint Entrance Examination organized by the Indian Institutes of Technology (established through an Act of Parliament for fostering excellence in education). There are 15 Indian Institutes of Technology, and these have created world-class research platforms (Agarwal 2006).

Other comprehensive universities recruit their students based on their own admission requirement policies. For instance, admission to undergraduate programs (but not the professional programs) at the University of Delhi is carried out by each college. Scores of higher secondary school examinations are taken into consideration. The colleges decide the cutoff percentage (minimum marks required) for their courses, and students with the requisite percent can approach the college and seek admission (University of Delhi 2011).

15.5 Variations in Admission Procedures

Across Asia, admission to higher education is based on some combination of secondary leaving exam, matriculation exam, and other entrance exams. These are also used in other parts of the world, where a variety of types of standardized aptitude tests, as well as student GPAs in secondary school, are used in admission exercises. A student's relative academic rank compared with other students in his/her class is also used in some countries. When we place them in the global typology we can see how Asian countries compare with those in other parts of the world (Table 15.3).

Table 15.3 A typology of higher education admission systems

Type 1: Secondary Leaving Exams	
National exam score only	Austria, France[a], Ireland, **Sri Lanka**
National exam score plus application dossier	United Kingdom
Regional/state exam score plus secondary school academic performance	Australia
Type 2: Entrance Exams	
National exam score only	**PRC, Indonesia, Mongolia, Viet Nam**
National exam score plus secondary school academic performance	Spain, Turkey
Institutionally administered exam score only	Argentina
Institutionally administered exam score plus secondary school academic performance	Bulgaria, **Philippines**
Type 3: Standardized Aptitude Tests	
Standardized aptitude test score or secondary school academic performance	Sweden
Standardized aptitude test scores, plus application dossier	**Republic of Korea,** United States
Type 4: Multiple Exams	
National entrance exam score, plus institutionally administered entrance exam score	France[a], **Japan**, Russia
National entrance exam score, institutionally administered entrance exam score, and/or secondary school academic performance	Brazil, **Lao PDR, Thailand**
National secondary leaving exam score plus institutionally administered entrance exam score	Finland, **Malaysia, Singapore**
National secondary leaving exam score plus standardized aptitude test score	Israel
Multiple exams administered by multiple entities	**India**
Type 5: No Exam	
Secondary school academic performance	Canada, Norway
Application dossier that does not require exam scores	Certain United States institutions

Source: Modified from the typology presented in Helms (2008)
Note: While some Asian countries are in the process of reforming admission requirements, their placement in this typology is representative of major patterns
[a]Students who pass the nationally administered, *Baccalauréat* examination have open access to most university programs (Type 1). However, the elite universities (Grandes Ecoles), candidates must also pass institutionally administered entrance examinations (Type 4) (Helms 2008)

Most Asian countries still rely heavily on entrance examinations. Admissions offices of colleges and universities in other parts of the world also consider the specific courses that a student has taken in secondary school, including their depth and breadth as well as their academic rigor. As part of admission criteria, some colleges and universities in the Organisation for Economic Co-operation and Development (OECD) countries have begun to consider leadership experience, including participation in student government and civic organizations; volunteer work in the

community; as well as participation in sports, artistic endeavors, after-school clubs, and relevant part-time employment. The reputation of the secondary school may play a role in admission, as well as after-school programs that specifically help students prepare for university life and study. Some college and university admissions offices even ask students to create a portfolio that includes their experiences, along with samples of their writing or other non-academic accomplishments. In short, some Asian countries have more room to consider diversifying the entrance criteria to higher education. In addition, it is necessary to clarify expectations about entrance requirements with secondary schools, students, teachers, and parents. In all cases, requirements have to be made more transparent.

Thus, the crux of the external efficiency problem facing many developing countries at the start of higher education is to address the inadequate and in some cases the decreasing readiness of secondary school graduates for higher education. This growing lack of readiness can be remedied with closer collaboration between secondary schools and institutions of higher education. The more institutions of higher education are able to understand the students who occupy their classrooms and laboratories, the better they will be able to develop measures to lessen the gap in expectations about readiness.

All stakeholders need to be involved. Teachers are not always aware and informed about what is expected of their students after entering higher education. The gap between the expectations of school teachers and college professors can be significant. If few parents, teachers, counselors, and school administrators have knowledge of college and university and what is needed to successfully undertake studies in universities, they are less able to provide students with accurate information. Furthermore, children of poor rural households, ethnic minorities, urban migrants, and other disadvantaged parents can easily become marginalized in their quest for access to higher education, as their parents usually lack the knowledge and experience to help their sons and daughters prepare for higher learning. Some secondary schools in Asian countries have never had a student enter university, and such schools have little contact with institutions of higher learning.

While national entrance examinations have to recalibrate themselves from the days of elite higher education, schools and universities have to forge closer contact with each other. Governments have a responsibility to make this possible within the context of the increasingly stratified and diverse system of colleges and universities in their nations. Moreover, the community's role can also be important: There is a need for joint efforts involving university, school, and community to provide academic support services to prospective university students. Methods should be developed to identify deficiencies much earlier at the secondary school stage. Information and orientation workshops can also be provided in senior secondary schools by university professors and other academic staff for students, parents, teachers, and school counselors of students. Better awareness is also needed about student readiness requirements for alternative opportunities, e.g., studies in higher TVET institutions and community colleges. Secondary schools must be supported and encouraged to require more rigorous coursework from their students than merely meeting minimal requirements. For this, dual courses can be introduced (e.g., in the last year

of senior secondary school, courses with similar levels of substance and rigor as in the first year of university should be offered). It will be important also to follow up students' progress in higher education, to be able to review and further improve, as necessary, the school-university alignment. None of the measures noted above can be effective without high-quality teaching in both secondary schools and universities. Teacher education programs need to strengthen the pedagogical skills of secondary school teachers and university faculty alike to help students practice critical thinking and problem solving.

15.6 Differentiating Institutions in Higher Education Systems

As economies diversify, so must institutions of higher education. Developing countries in Asia should increasingly reconfigure their HEIs, including research universities, undergraduate institutions, specialized colleges, vocational professional institutes, regional colleges, and national flagship universities. An efficient system of higher education is one in which postsecondary institutions have different but distinct missions, educate and train students for different careers, pursue different instructional approaches, are funded and managed differently, and are governed under different laws and relationships to government (OECD 1998). However, to be effective, the diversified higher education system as a whole must appropriately support the vision of the nation for economic development. An appropriate range of HEIs can provide flexibility and dynamism to serve different student needs and be responsive to the changing needs of the labor market. A rationalized alignment of an appropriate range of HEIs can help address the challenges of student readiness for higher learning and student readiness for the workplace.

Middle-income countries often have a diverse configuration of colleges and universities, and some regionally or globally ranked universities. A differentiated array of HEIs of various levels (including TVET institutions and community colleges) is necessary for middle-income countries to prepare human resources for the labor market and boost indigenous innovation and science and technology to avoid the so-called middle-income trap (ADB 2011a) and help drive their economies toward higher income levels. A key issue is how well HEIs are configured with distinct missions, have the capacity to educate students from more diverse ability ranges, and are able to prepare them for changes in the labor markets and workplaces.

Lower income countries will need to pursue strategic plans to strengthen their existing institutions, enabling selective universities to attract international investment as they contribute to particular forms of production. Other colleges need to set basic standards and justify their financial planning based on how well they serve their local communities. Community-based institutions can excel by promoting local entrepreneurship. The colleges in these countries can benefit from becoming bases for the application of technology to local problems, whether they be agricultural or

have to do with resource extraction and processing, transportation, energy production, etc. These colleges can also promote languages and cultural knowledge that will help graduates gain access to further study at colleges outside their home country.

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Chapter 16
Higher Education and the World of Work: The Perennial Controversial Debate

Ulrich Teichler

16.1 Introduction

The relationships between higher education and the world of work have been among the *key issues* traditionally and are certainly since the 1960s when the opportunities and dangers of higher education expansion became a key theme of higher education policy in economically advanced countries. When UNESCO arranged the first World Conference on Higher Education in the late 1990s, this theme was chosen as one of the dozen most salient issues (Teichler 1999a). There have been times of major focus on this theme and other times when it has attracted lesser attention. But all over the years, two characteristics of this discourse can be named. First, it was a controversial discourse at all times. Second, the discourse of scholars – in the domains of educational research, labour market research, professional research and interrelated areas – was continuously closely linked to the political discourse (Teichler 1999b).

Three interrelated themes stood out over the years:

- First, the *quantitative-structural* theme that can simply be summarized by the question: Do we have too few or too many students and eventually graduates?
- Second, the *functional* discourse as regards higher education: What role should future graduate employment play in the educational objectives and activities of higher education? Has higher education much broader functions than laying the foundation for the world of work or should we pay substantial attention to its job-preparatory role? Should higher education serve the expectations of the employment system or rather challenge such expectations?
- Third, the *substantive* discourse about learning and future job tasks: What aspects of knowledge and competences are crucial for job tasks and job performance,

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and which of them should and could higher education strive for? There are for example constant debates about the breadth and depth and about knowledge versus competences.

Many of these debates seem perennial. However, emphases have *changed over time in the process of expansion* (Teichler 2009). One might argue that the issues are likely to change substantially in the twenty-first century when eventually the majority of the respective age group will be higher education trained. Therefore, a look back might also sharpen the view for changes at stake on the way to almost "universal higher education".

The author of this article has been asked twice by the International Labour Office to summarize the world-wide debate on the relationships between higher education and the world of work (Teichler et al. 1980; Teichler 1999a), and to summarize the state of knowledge in some encyclopedias (Teichler 1992, 2001, 2011). Various of his reviews are published in a collection of essays (Teichler 2009) which include a wealth of further interesting literature is named.

16.2 Quantitative-Structural Issues

Around 1960, there was a breakthrough in the popularity of concepts of *economics of education* according to which high investment in education and a high level of educational attainment of the workforce of a country are likely to lead to economic growth (see the overview in the beginnings and subsequent developments of economics of education in Psacharopoulos 1987; Carnoy 1994; Hanushek and Woessmann 2011). It was also the time of the "*Sputnik Shock*", i.e. the concern in the "Cold War" that the Soviet Union and their neighbours might take the lead in technological advancement because they invest heavily in education and research. And it was the time when the *OECD* was founded and opted for an advocacy of educational investment as their first step of educational policy (see Papadopoulos 1994). In Germany, a country with a relatively low entry rate to higher education, a publication warning of an "educational catastrophe" unless substantial educational expansion became the goal was well received.

In the early 1950s, *entry rates to higher education* of the respective age group were only about 5 %. Around 1970, rates of 20 % became widespread. But, at this time, scepticism began to spread as regards the desirability of expansion of higher education, and the "oil crisis" of 1973 is often named as a turning point from a dominant advocacy of higher education expansion towards a dominance of cautious views. To take again an example from Germany: A forecast published in the late 1960s stated that the number of university graduates would be twice as high in the 1980s as the number of job openings to graduates. Similarly, a study undertaken by an institute close to the German employers association argued in the early 1970s that the number of job openings for university graduates would grow about 1 % annually, but the number of graduates more than 5 % annually (Teichler and Sanyal 1982).

Actually, developments of entry rates to higher education were quite varied from the early 1970s to about the mid-1980s. Thereafter, growth picked up again in many countries and continues up to the present. The rate of persons with a higher education degree (at least a bachelor's) among the 25–64 olds across the OECD countries was on average 7 % in 1960, 10 % in 1970 and eventually 16 % in 1980. It increased to 28 % in 2000 and reached 39 % in 2010 (OECD 2012).

For a while, one could assume that this process of expansion since the mid-1980s would lead to a widespread consensus that ever-increasing levels of expansion were not only a matter of procedure, but even the generally appreciated state of affairs (see for example OECD 1998). Actually, however, concerns about dangers of expansion did not vanish (Büchel et al. 2003).

During this period, despite variations in the extent of public support, there was a *coexistence of two narratives*:

- a *shortage and need for expansion narrative*: Accordingly, a more substantial expansion would lead to higher economic growth and a societal well-being in many respects, e.g. a reduction of inequality of opportunity and a greater social justice, a more comfortable life and eventually a society strongly shaped by knowledge in general.
- an "*over-education*" *and* "*mismatch*" *narrative* according to which the number of graduates tends to surpass respective jobs substantially: as a consequence, we would observe increasing graduate unemployment, employment based on "credentialism", "diploma disease" or "screening" whereby the level of educational attainment was not needed, thus more often employment in positions not adequate to the level of educational attainment, declining income rewards for education, and an "under-utilisation" of competences.

We know that developments of the relationships between higher education and the world of work varied in principle in various respects between *market-oriented economically advanced countries* on the one hand and *planned economies* on the other hand (Hüfner 1983; Avakov et al. 1985). We are also aware of the fact that there were enormous differences as regards this relationship in *developing countries* from those in economically advanced countries (see Sanyal 1991).

By and large, one can state that *quantitative planning of higher education* according to presumed needs of the employment system played the weakest role in market-oriented economically advanced countries. There, we noted a stronger belief that the employment system might have unpredictable dynamics which makes forecasts of future demands and corresponding planning of supply less predictable. Moreover, there was a stronger belief in these countries that higher education should serve the expectations of the learners: Often, the term "*social demand*" was employed in this framework.

It is interesting that the discussions about the need for and the possible danger of higher education expansion throughout market-oriented economically advanced countries were *fairly similar at every moment in time*, although the level of expansion differed strikingly from country and country. Some experts concluded that the discourse was more strongly influenced by the epidemic influence of international

discourses stimulated by international organisations than by actual conditions in the individual countries. In any event, we note a *change of* "*Zeitgeist*" to a certain extent over the years, but not to the extent that the two controversial views were out of scope for some periods.

The variety of the actual *level of higher education expansion* is illustrated on the left side of Table 16.1 by the graduation rates from higher education in selected OECD countries in the year 2010. About 50 % or more in Australia, Denmark, Finland, Iceland, Poland and the United Kingdom, about 40 % for example in Japan, Netherlands and the U.S., but only about 30 % in Austria, Italy, Germany and Switzerland, and only slightly more than 20 % in Turkey. It is interesting to note that the countries at the top had not been in these positions for decades, while the front-runners of educational expansion a few decades ago – the U.S. and Japan (Teichler 1991) – now have graduation rates close to the OECD average.

The quantitative debate on the relationships between higher education and employment was mostly linked to the structural debate: What *elements of diversity within higher education* are meaningful in this respect? Of course, there has been a

Table 16.1 Net graduation rates from tertiary education in selected OECD member states 1995–2010 (percent)

	Tertiary education A (First degree)				Tertiary education B (First degree)			
Country	1995	2000	2005	2010	1995	2000	2005	2010
Australia	.	36	50	(50)	.	.	.	(16)
Austria	10	15	20	30	.	.	8	12
Czech Rep.	13	14	23	38	6	5	6	5
Denmark	25	37	46	50	8	10	10	9
Finland	21	40	47	49	34	7	.	.
Germany	14	18	20	30	13	11	11	14
Iceland	20	33	56	60	10	5	4	2
Ireland	.	30	38	47	.	15	24	22
Italy	.	19	41	32	.	.	1	1
Japan	25	29	37	40	30	30	28	25
Netherlands	29	35	42	42	.	.	.	.
New Zealand	33	50	51	47	12	17	21	26
Norway	26	37	41	42	6	6	2	.
Poland	.	34	47	55	.	.	.	1
Portugal	15	23	32	40	6	8	9	.
Spain	24	29	30	30	2	8	15	16
Sweden	24	28	38	37	.	4	5	6
Switzerland	9	12	27	31	13	14	8	16
Turkey	6	9	11	23	2	.	.	19
United Kingdom	.	42	47	51	.	7	11	12
USA	33	34	34	38	9	8	10	11
OECD average	20	28	34	39	11	9	9	10

Source: OECD (2012)
Figures in brackets: 2009

long tradition of analyzing the links between fields of study and occupational areas. For example, the term "mismatch" is often employed if graduates from certain fields of studies surpass the number of positions in corresponding areas of employment, or if the number of graduates in certain fields is smaller than the respective vacancies. As will be discussed below, the views vary, however how close the linkages actually are and ought to be between fields of study and occupational areas.

Beyond those matrices between fields of study and occupation, there emerged a debate about other distinctions within higher education relevant for employment and work. The American higher education researcher Martin Trow (1974) coined terms which became most popular in this framework (Burrage 2010): "Elite higher education" prevails as long as not more than 15 % of an age group enrol; "*mass higher education*" emerges as a second sector alongside serving the increased variety of students' talents, motives and job prospects, and the term "universal higher education" is used when more than half enrol. Increased attention was paid to the questions of what features of higher education (types of higher education institutions, levels of study programmes, qualitative and reputation ranks of institutions of higher education or departments) or of specific programmatic thrusts of institutions and programmes (Neave 2011) turn out to be important for the career prospects of graduates.

In this context, one has to point out that the *definitions of the overall sector* changed over the time. "*University education*" was widely referred to in the early years of the debate discussed here. After a while, the term "*higher education*" spread – including also shorter programmes as well as programmes taught at institutions without any substantial research function along teaching and learning. Finally, in the 1980s, international organisations began to talk about "*tertiary education*", thereby also including short and strongly vocationally oriented programmes without an intellectual emphasis traditionally linked to the term "higher education".

For a long period, the controversy about shortage versus over-education referred primarily to education and *labour market statistics*. On the labour market side it referred to employment status (employed, unemployed and other activities), income and occupational category. As regards internationally widely used *occupational categories*, for example, it was common to assume that managers and professionals are the typical occupational areas for university graduates. The views differed whether semi-professionals, technicians etc. could be considered appropriate for graduates from some sectors of higher education. Finally, graduates from higher education institutions employed in clerical and sales positions as well as those in skilled or unskilled worker positions were clearly viewed as over-educated.

Critique spread in the 1970s that the measurement of the relationships between higher education and employment with the help of occupational categories on the labour market helped to support the over-education and mismatch narratives in an artificial way. Accordingly, the beneficial impact of educational expansion was not just to serve somewhat increasing traditional graduate jobs, but also to enrich work in the less-privileged occupational sectors. In the wake of this critique, *graduate surveys* were used to measure the relevance of higher education for graduate employment and work with a wider scope spread. Concurrently, the range of disciplines spread contributing strongly to the concepts and the knowledge base on the relationships between

higher education and the world of work, notably sociology and subsequently also psychology. Many such surveys were undertaken for individual institutions, individual occupational areas, or representatively for graduates of a whole country (Paul et al. 2000). For example, graduate surveys might help higher education to examine the professional impact of individual study and thus stimulate reflection for possible improvement (Weerts and Vidal 2005). International comparative graduate surveys (Schomburg and Teichler 2006; Allen and van der Velden 2011), that could compete with the statistics in the range of the information provided with international education and labour statistics, remained exceptions however.

The results of the first major comparative study of this kind – undertaken about 3–4 years after graduation in various European countries and Japan in 1999 – suggested that *graduates noted more often a link between study and employment than a look at the occupational categories as such suggested*. On average, in the European countries referred to, 28 % of those employed had no managerial and professional positions. As Table 16.2 shows, however, only 19 % stated that they make little use of their knowledge acquired in the course of study; only 14 % each noted that their field of study was wrong or irrelevant and that their position was hardly appropriate to their level of educational attainment, and only 11 % were dissatisfied with their overall professional situation.

The comparative graduate survey of 1999 also shows *that a close link between a person's field of study and subsequent occupational category is by no means a*

Table 16.2 Perceived limited links between study and employment/work and job satisfaction about 3–4 years after graduation in ten European countries 1999 (percent)

Country	Little use of knowledge	Wrong field/HE not necessary	Level of education hardly adequate	Current work situation worse than expected	Dissatisfaction with current job/ work
Norway	5	3	3	7	4
Sweden	12	7	[a]	22	11
Finland	12	9	6	15	9
United Kingdom	25	27	18	24	18
The Netherlands	16	12	8	10	7
Germany	23	15	16	17	12
Austria	17	16	13	13	10
France	37	26	22	24	14
Spain	25	15	17	38	13
Italy	21	14	22	30	18
Total	19	14	14	19	11

Source: Schomburg and Teichler (2006)
[a]Not asked in the questionnaire

norm. Certainly, there are fields and occupational areas where this applies, for example medicine, but this is not generally the case. On average across the countries surveyed, only 39 % agreed to the statement "My field is the only possible/by far the best field". About the same proportion (40 %), in contrast, stated "Some other fields could prepare for the area of work as well" – thus pointing out a relatively high degree of flexibility. Only 9 % stated "Another field would have been more useful" (Schomburg and Teichler 2006).

These surveys show that the relationships between higher education and the world of work can only be understood to a limited extent if attention is paid as regard the latter only on categories of employment, e.g. employment status, income and occupational area. The relationships between what is studied and what is done on the job can be inferred only to a limited extent according to "employment" categories. Employer surveys as well as graduate surveys did more than enrich the information base in general by showing the views of key persons. The functions of higher education as well as the curricula, the competences and work tasks have to be addressed through such surveys in a more direct way.

In sum, we note up to now a controversial assessment of higher education expansion. On the one hand, the annual educational statistics are presented in a way that countries whose entry and graduation rates are below the OECD average are styled as backwards – this implies that high rates are desirable. On the other hand, complaints are widespread that a considerable proportion of graduates end up in non-privileged jobs. However, findings of graduate surveys suggest that employment in jobs not regarded as typical graduate jobs might not be a waste of talent but might enrich those jobs and it might match the motives of some graduates who do not strive for typical graduate jobs.

16.3 The Functional Perspective

In addressing the role higher education could play for the world of work in general we note a widespread consensus in economically advanced countries of the *key educational functions of higher education*. Accordingly, higher education is expected to

- *stimulate students intellectually in the academic domain*, i.e. to teach students to understand and master the academic theories, methods and knowledge domains,
- contribute to *cultural enhancement and personality development*,
- *prepare students for subsequent work and other life spheres* through laying the foundation of relevant knowledge and helping them to understand utilize the typical "rules and tools" needed in their professional life,
- *foster the ability to challenge established practice*. Graduates have to be sceptical and critical, have to challenge conventional wisdom all the time; they have to be able to cope with indeterminate work tasks, and they should be able to contribute to innovation.

As regards the professional preparation function of higher education, we note a widespread consensus that there are fundamental *limits in the extent to which higher education is or ought to be closely geared to the presumed professional* "*demands*".

- First, higher education is *less clearly geared* to professional practice that way *than vocational training* below this level of educational attainment, because such a close link is less efficient, if job tasks are highly complex and highly dynamic, and if the job holders often have to make independent decisions (Teichler 2001).
- Second, modern societies have accepted the *principle of academic freedom* with a prime emphasis on the task of the academic profession to seek for "truth" (Shils 1991), as well as to socialize students according to the virtues of critical and unbounded inquiry and problem-solving.

Research on the relationships between higher education and graduate employment has highlighted *various practical reasons* why higher education is unlikely to prepare graduates as closely for their job tasks as advocates of a strong "match" are inclined to favour:

- For example, there are endemic *imperfections in identifying job requirements*: Employers tend to be uncertain as far as job requirements are concerned. In-depth job analyses are only helpful to a limited extent. Moreover, there are similar difficulties in identifying the job-seekers' abilities.
- Also, there is a *planning gap*: There is an unavoidable time-gap between the identification of new job assignments and the provision of respective competences, because several years are needed for the revision of curricula, their implementation, and the actual "production" of new graduates.
- Moreover, we note such *dynamics in the quantitative development of occupations* that a substantial proportion of graduates have to change occupations and employers during their professional life-course. Thus, a closely geared professional preparation often turns out to be futile after a while.
- As a consequence of these practical limitations of shaping pre-career study programmes to the presumed demands of the employment system, proposals to provide relatively general pre-career study programmes and to leave the specialized training to *initial training and lifelong learning* often have been made (Tuijnman and Schuller 1999). Actually, however, the increasing lifelong learning activities in many countries have changed the character of pre-career study programmes.

One of the most intensive debates that the OECD tried to stimulate on the relationships between higher education and the world of work addressed issues of the "transition" from study to employment. The respective analyses (OECD 1992, 1993) showed that the graduate careers are less straight than often tacitly assumed. Efforts to move upwards on the educational career ladder, changes of fields of study and institutions, trial and error phases shortly after graduation as well as job changes during the first years of employment seem to become so frequent that the OECD often spoke about a 10-year transition period. This certainly could call for a reconsideration of the function of higher education as well, but, actually, this discourse remained relatively short-lived.

Actors and experts often describe the educational functions of higher education in terms of a *dichotomy between an academic and a professional emphasis*, whereby some disciplines are seen to represent the academic emphasis and others the professional emphasis. In the U.S., even clearer distinctions are made between academic and professional fields – whereby some "academic" fields might be perceived quite "professional" in other countries. In many countries, private employers, public employers and professional organisations have an enormous influence on the development of curricula or even on the examination system in professional fields. In Germany, for example, students of medicine, law and teacher training traditionally do not terminate their study with a university degree but rather by passing a state examination jointly held by practitioners and academics (Kehm 1999). In the United Kingdom, various professions administer entry examinations to professional practice, whereby university graduates are "exempted" from such an examination, if the study programme they have been enrolled in was accredited by the respective profession (Goodlad 1984).

Such a dichotomy is not accepted in all countries. For example, regulations in the European Union on the professional recognition of degrees take for granted that higher education degrees are the entry qualification for all professions except for those that might be understood as "closed professions", but individual countries might require additional qualifications for entry. Or the university degree in all disciplines is considered in some European countries to have an *effectus civilis*, i.e. being concurrently an academic degree and the professional entry qualification for almost all occupations where higher education is the customary level of educational attainment (Jablonska-Skinder and Teichler 1992). A clear dichotomy between academic and professional field often is questioned. For example, curricula in the former fields could be both, strong in academic dimensions and more relevant for the world of work, and curricula in the latter fields might deserve more demanding academic standards as well as strong competences to challenge the dominant professional practices.

A closer look at the discourse on the academic versus professional emphasis shows that a variety of dimensions has to be taken into consideration (Teichler 2009). We have to distinguish between

- a professionally determined *composition of knowledge* within a study programme (e.g. mechanical engineering) and an academically determined composition of a study programme (e.g. philosophy);
- an academic versus an applied *emphasis of teaching and learning*, i.e. an emphasis on understanding the logic of the knowledge system versus an emphasis on the transfer of knowledge to practical problem-solving;
- *academic orientation versus orientation towards practice*, i.e. pursuit of knowledge for its own sake versus learning to understand the tensions between theory and practice during the course of study;
- *preparing students to be able to become scholars versus preparing students to understand and utilize the results of academic work* in their subsequent professional work outside academia;

- prime emphasis on the understanding and the ability to handle *conventional wisdom* versus on sceptical and critical views as well as on *coping with indeterminate work tasks and innovation*;
- emphasis on conveying the *foundation of knowledge* relevant for professional practice versus preparing students directly to *master the relevant knowledge on the job*;
- emphasis on *general versus specific* – academic and professional – knowledge;
- *disciplinary versus interdisciplinary* emphasis, and finally
- an emphasis on mastering the "*substance*" of knowledge versus an *outcome awareness*, i.e. the awareness of the competences needed for professional action.

The discourse on the possible contributions of higher education expansion to economic growth and societal well-being in the 1960s concentrated on the quantitative relationships, but affected the substantive dimensions of study and professional work as well. The view spread that an expanded system of higher education has *to take into consideration the future graduate work more explicitly* than in the past. In Germany, for example, a Framework Act for Higher Education was enacted on the national level in 1976 aiming to guarantee some similarity of higher education laws in the regions that are in charge of supervision and funding. It formulated the following: "Teaching and learning are to prepare students for a profession in a certain field of activity, imparting to them the particular knowledge, skills and methods required in a way appropriate to each course so to enable them to perform scientific and artistic work and to act responsibly in a free, democratic, and social state governed by the rule of law" (Peisert and Framhein 1994, p. 11). For several years this fuelled controversial debates in Germany, because it was often interpreted as subordination of study to the employers' demands and as inappropriate professionalization of disciplines such as philiophy. After a while, however, this was understood as a call to *reflect the professional relevance* of study in all study programmes, but with extremely different detailed approaches in the various disciplines.

In various European countries, a model of inter-institutional diversification of the higher education system was opted for, whereby universities strived for a creative mix of academic learning and laying the foundation for professional work, while other institutions of higher education had a more *applied emphasis*. In recent years, the term "universities of applied sciences" spread across Europe for the latter types of institutions, even though their character varies substantially across the individual countries (Taylor et al. 2008).

In the first decade of the twenty-first century, a new movement emerged in Europe of emphasising a closer functional link of higher education to the presumed demands of the employment system. "*Employability*" became the slogan for respective discussions and activities (Knight and Yorke 2003; Vusakovic 2007; Yorke 2007; Teichler 2009).

The term employability could be considered as misleading in two respects. First, the term was well established in the area of labour market policy and research in addressing "youth at risk", i.e. those facing difficulties to get employed at all, and thus contrasts the relative privileged situation of graduates from institutions of higher education. Second, "employment" is a term addressing modes of contract,

salary, social benefit, etc., i.e. the exchange value of education (see the discussions of the terms employment, career and work in Brennan and Kogan 1993), while the aim strived for is a closer linkage between learning and professional work.

Actually, we note various meanings when actors and experts call for increased graduate "employability":

- the institutions of higher education should do whatever they can do in order to enhance their graduates' career success;
- students should do their best to increase the exchange value in the choice of study, i.e. choosing an institution, a field and a programme most likely to lead them to the highest position and income they might acquire;
- the substance of study programmes should be closely linked to the expected substance of work tasks;
- programmes should be arranged in such a way that students learn in the best possible way to transfer academic knowledge to action in the world of work (an applied emphasis, a problem-solving emphasis, etc.);
- institutions of higher education should also help to enhance competences not closely to academic subject matter, but appreciated in the employment system (e.g. socio-communicative skills);
- institutions of higher education ought to help students in the job search and in the transfer to the employment system (e.g. information about job opportunities, coaching in job searching, or even more direct help).

Clearly, the term "employability" makes sense if one wants higher education to do something that is likely to be rewarded by the employment system. This does not conceive of the role of the university as an "ivory tower" institution, nor as an institution reflecting the relationships between higher education and the world of work, nor as a pro-active institution that try to contribute to changes in the world of work. Rather, the term calls for subordination of higher education to the presumed demands of the employment system. Therefore, it cannot come as a surprise to note that the term "employability" is highly controversial in Europe.

One has to take into consideration, though, that the term is widely used by actors and experts in Europe in a casual way without explicit agreement about its ideological underpinning. According to the author, the term "*professional relevance*" would have been more suitable to stimulate a discussion on the changing relationships between higher education and the world of work in recent years (Teichler 2009). Higher education is more strongly under pressure to provide evidence of its relevance to society, and the various measures of financial incentives and control as well as of evaluation and accreditation have increased what might be called an "output awareness" or "outcome awareness". As a consequence, employment and work of graduates is nowadays often taken as key information for the reflection of improvement in curricula, teaching, and learning in higher education, and interest has grown in research on the impact of study (see the first major summary of respective research in the U.S. in Pascarella and Terenzini 1991). But there are substantial variations by country in the extent to which the presumed demands of the employment system are taken as criteria for reform. Moreover, ideas about which directions of reform might increase the graduates' career opportunities vary from country to country.

One might add here the observation that the discourse on the function of higher education vis-à-vis the world of work has paid attention to the notions and interests of higher education – the academics and the management – as well as to those of government and the public, and – last but not least – to those of employers. At most, students might have been shown as an abstract entity – "social demand" – or implicitly as the usual abstraction in economic theory, i.e. as "*homo oeconomicus*". It was taken for granted that the search for knowledge and the search for the highest possible income and status were the rules of the game.

This is by no means self-evident. For example, the period of strong belief in the close link between higher education and economic growth almost coincided with that of the most visible *student protests* in many countries, among others against the established educational and professional traditions. Also, the subsequent widespread concern about over-education more or less coincided with the spread of the idea that the race for income and status might give way to "*post-industrial*" *values* (Inglehart 1977), among more intrinsic interests in work or wishes to change the traditional social settings.

Actually, various surveys addressed the *students' and graduates' values* as regards education and graduate work. Among others, the comparative study of graduates in eleven European countries and Japan addressed this issue (see Table 16.3).

Based on an in-depth data analysis on work orientations 3–4 years after graduation, a typology of work orientations was developed which should be quoted extensively here, because this theme is all too frequently overlooked. Six types were named in the analysis of the 1999 survey (Schomburg 2007, pp. 254–257):

- 12 per cent of the graduates could be called traditional professionals or task-oriented professionals. They appreciated a high degree of work autonomy, they liked to focus on complex and difficult tasks and to have the opportunity of making use of the knowledge they acquired. Status attributes were also important, whilst leisure time and home and family were not held in high regard.
- A somewhat larger proportion of graduates, i.e. 18 per cent, could be called *new professionals*. They resembled old professionals as far s work-related orientations are concerned, but they put little emphasis on status dimensions. Moreover they appreciated good opportunities of combining work and family life and they also wanted to have enough time for leisure activities.
- 14 per cent of the respondents could be characterized as *career-oriented* graduates. Income and career opportunities were most strongly strived for, whilst work-related aspects, such as autonomy, using their knowledge or doing work related to science, were not seen as crucial.
- A substantial share of graduates (21%) could be called *socially oriented*. They most appreciated team work and doing something useful for society. They enjoyed job security and well-ordered tasks. Like the first and the second type, they also considered using their knowledge and being involved in scientific work as important.
- A fifth type, comprising 20 per cent of graduates, could be termed as *self-development-oriented*. On the one hand, these graduates were more strongly work-oriented and status-oriented than the traditional professionals and, on the other hand, they cared less about job security, the relevance of their work for society and for social communication than all the other graduates.
- Finally, 15 per cent of the graduates could be called *non-professionals*. They were neither ambitious as far as status and career were concerned nor were they very interested in matters of work assignment such as challenging work tasks. Last but not

Table 16.3 Comparison between work orientation and professional situation (percent*)

	Work orientation	Professional situation	Difference (situation-orientation)
Good social climate	91	70	−21
Possibilities of using acquired knowledge and skills	84	66	−18
Challenging tasks	77	64	−13
Largely independent disposition of work	75	64	−11
Variety	81	62	−19
Job security	75	62	−13
Possibility of working in a team	61	61	0
Opportunity of pursuing continuous learning	81	58	−23
Opportunity of pursuing personal ideas	81	57	−24
Chance of doing something useful for society	59	46	−13
Enough time for leisure activities	74	45	−29
Good chances of combining employment with family tasks	66	43	−23
Social recognition and status	47	43	−4
Clear and well-ordered tasks	56	42	−14
Good career prospects	67	41	−26
Co-ordinating and management tasks	48	39	−9
High income	61	34	−27
Opportunity of undertaking scientific/ scholarly work	37	23	−14
Chances of (political) influence	30	22	−8

Source: Schomburg (2007)
*Responses 1 and 2 on a scale of answers from 1 = "Very important" to 5 = "Not at all important" (work orientation) or 1 = "To a very high extent" to 5 = "Not at all" (work situation)

least, they neither emphasised the socio-communicative dimensions of work nor were they interested in doing something useful for society.

This study suggests that the *homo oeconomicus or status seeker* does not represent the majority. There are more graduates intrinsically motivated to do interesting and challenging tasks, often related to their academic interest, and often to be done independently. As the comparison of self-descriptions of work orientations and the perception of the actual situation in Table 16.3 suggests, the gap between orientations and actual situation does not differ more strikingly on average according to status dimensions than according to work task dimensions.

16.4 The Substantive Discourse on Study and Work

As pointed out above, efforts of understanding the relationships between higher education and the world of work and possibly finding better solutions cannot merely by done by looking at statistical data and surveys on the quantitative-structural

relationships between higher education and employment. Also, a discourse on the functions of higher education vis-à-vis graduate employment and work does not disclose concrete options. Therefore, a third theme has featured constantly in this framework over the years: What is the impact of the substance of study programmes and of the modes of teaching and learning on graduate work?

In considering recent debates in this domain, we tend to believe that study programmes in higher education traditionally had certain features or ranges of options irrespective of variations by country, disciplines, type of higher education institutions and levels of degree programmes (Teichler 1985). Certainly, there are clear differences by country that reflect both, curricular traditions in higher education (Rothblatt 2011) and different general links between education and work, such as a strong "professional" linkage in for example France and Germany and a looser "market" linkage in the Anglo-Saxon countries and Japan (Müller and Shavit 1998; CEDEFOP 2009). As already noted, individual fields of study vary dramatically in this respect, and many European countries introduced with the expansion of higher education a new type of higher education and study programmes with a more direct job-preparatory thrust than universities. Yet, we note some general trends.

- The thrusts of learning were clearly in the *cognitive domain*. This does not preclude the fact that personality development was addressed indirectly or directly and that sensu-motoric abilities could play a role in some fields, e.g. dentistry or sports.
- *The understanding of research-based reasoning* was considered to be an essential feature in the preparation for typical graduate jobs. Teachers should be active or at least versatile in research and they should acquire an understanding of theories and methods as well as disciplinary knowledge.
- The design of curricula differed in various respects according to *academic or professional emphasis*: whether fields were shaped according to disciplines or prospective professional areas (e.g. education vs. teacher training), training of the knowledge base versus training of the professional application of knowledge.
- The character of curricula also differed as regards the *coverage of academic knowledge*: whether a breadth of knowledge was emphasized or in-depth knowledge in a specialized area (Heijke et al. 2002), whether the programmes focused on a single discipline, covered other disciplines as well or had an interdisciplinary approach, whether emphasis is placed on the settled foundations of a field or the most up-to-date knowledge, etc.
- There was traditionally a rich discourse on the *modes of teaching and learning*: Whether transmission of knowledge by experts in the content but amateurs in the teaching and learning processes was the norm, or whether academics had to have professional expertise in teaching and learning. If the latter were true, notions varied as to the most effective modes of teaching, learning, and assessment.

It is not possible in this framework to describe and discuss the wealth of job analyses, proficiency tests, curricular approaches, and impact analyses in the various academic disciplines and professional areas. But there are six areas of major

change in the curricular approaches which reflect the relationships between study and work that have been observed in recent decades.

First, the r*elationship between academic knowledge and its professional utilisation has become a more important curricula issue*. Terms such as "orientation towards practice", "applied study programmes" or even "vocationalism" are coined in this framework. The relationship between academic knowledge and professional problem-solving might be addressed directly in lectures and seminars. The distinction between basic research and applied research might be stretched in the study programmes. Larger parts of the courses might explicitly address the application of knowledge.

Second, often related to the first, learning in classroom settings is supplemented by *phases of practical experiences*. The movements of "experiential learning" (Keeton et al. 1976) and "cooperative education" (Knowles et al. 1971) already in the 1970 in the U.S. were examples of that, and "learning in projects" spread internationally. In many European countries, internship phases during the course of study became a matter of procedure across many disciplines. According to the 1999 comparative graduate survey named above, one fifth of the graduates stated that in their study programme emphasis was placed on "direct acquisition of work experience", and one quarter that emphasis was placed on "project and problem-based learning"; one third of the graduates reported that they had participated in a "work placement" or "internship" during the course of study, whereby substantial differences could be observed by country. For example, as many as 68 % in the Netherlands and 55 % in Germany in contrast to 25 % in the United Kingdom, 7 % in Italy and only 1 % in Japan (Schomburg and Teichler 2006). Analysis of the subsequent 2005 data show clearly that practice-oriented methods and practical experiences in the course of study were likely to contribute the graduates' professional success (Van der Velden and Allen 2011).

Third, a stronger emphasis is placed on explicit teaching and learning in *domains not part of individual disciplines or professional programmes or cutting across them*. Terms might refer to education and knowledge, e.g. general education, interdisciplinary learning, or to the results of learning, e.g. "generic skills", "key competences". This might imply general knowledge, understanding the logic of science, analytical thinking, written communication skills, learning to learn, skills in supplementary areas e.g. ICT, foreign languages and management.

Fourth, study programme are expected to be arranged in way that learning process contributes to *personality development*, whereby often a link between fostering of cognitive and affective competences is meant. Examples of such dimensions of personality include: ability of concentration, working in a team, socio-communicative skills, working under pressure, managing time, initiative, persistence, accuracy, leadership, negotiation abilities (see ibid.).

Fifth, institutions of higher education were increasingly expected to define the results of study not in terms of acquisition of knowledge, but rather *in terms of the abilities eventually reached*. Terms such as "skills", "qualifications" (in some countries), "competences" or "learning outcomes" are used to explain this shift (Weinert 2001; Bennet 2000; Knight and Yorke 2003). For example, the ministers in charge

of higher education of the European countries collaborating in the Bologna Process agreed in 2005 to recommend "qualifications frameworks". Accordingly, the bachelor degree should be awarded to students who have not only demonstrated knowledge and understanding of the field of study, but also

- can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study;
- have the ability to gather and interpret relevant data (usually in their field of study) to inform judgements that include reflection on relevant social, scientific and ethical issues; can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences;
- have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy (Teichler 2007, p. 29).

Sixth, students are encouraged to acquire *international experiences* and institutions of higher education are expected to ensure an organisational and curricular environment which reinforces internationalisation. For example, we can estimate that more than 10% of recent graduates from institutions of higher education in Europe have had a period of study abroad or substantial study-related experiences (Schomburg and Teichler 2011), and the ministers in charge of higher education of the European countries collaborating in the Bologna Process agreed in 2009 to a respective target of 20% by the year 2020. As surveys of employers, teachers, students and graduates indicate, graduates who have had international experience in the course of study are somewhat superior to non-mobile persons in general cognitive competences, specific academic competences and key skills – possibly due to having had contrasting experiences in those domains abroad to the provisions at home and thus have a broader range of understanding and reflection. And they are viewed to be clearly superior on average in terms of foreign language proficiency, knowledge of other countries and inter-cultural understanding (see the summary of survey results in Teichler 2007; Wächter 2008).

Most of these envisaged or realized changes do want to overcome the traditional dominant approach that students are helped by higher education to acquire the competences but have to find ways themselves or through in-career training to transfer this knowledge to job-related competences and actual work. Instead, this transfer should be an integral element of pre-career learning – in classroom settings or outside.

This reflects the finding that when graduates are asked about the relationships between the job requirements and their actual competences they consider they are well prepared as far as knowledge is concerned but not with respect to other competences. For example, in the 1999 survey graduates were asked 3–4 years after graduation to compare the level of job requirements to that of their competences upon graduation. The 27 survey items were grouped into five themes. In relation to "knowledge", 24 % of the graduates stated a surplus of competences and 35 % a deficit (41 % a balance). The respective ratios deficit and surplus were 23 % and 41 % as regards "methodical skills", 17 % and 38 % regarding "intelligence", 15 % and 47 % concerning "socio-communicative skills" and finally 12 % and 49 % as regards "organizational skills" (Kivinen and Nurmi 2007).

One could consider the differences of gaps between the competences acquired during the course of study and later job requirements according to these themes as quite natural. The prevailing view among experts and actors, however, seems to be that higher education should play a more active role in domains that had been left to the employment system and the graduates in the past. This does not necessarily mean that institutions of higher education should substitute initial training and on-the-job learning; it could mean as well that higher education can play a pro-active role, e.g. to prepare students for problem-solving in a more innovative way than graduate would learn it, if this was new in the phase of initial training after graduation.

16.5 Links Between Study and Career in a Highly Educated Society

In economically advanced countries, the proportion of graduates among the corresponding age group is now about ten times as high as it has been for about six decades. This has been accompanied by an increase of the number of occupational positions for which a degree from higher education is the indisputable entry qualification, though these positions clearly did not grow as much as the "supply" of graduates. Given the discrepancy in these two trends, it is surprising to note that the discourse among actors and experts about the relationships between higher education and the world of work is not even more lively than it had been over the years.

Whether enrolment in higher education has expanded too much or should have expanded even further has been a subject of debate. There are differing views on the extent to which the higher educational function should remain close to the traditional patterns of a coexistence of the strong academic and professional approach or whether higher education should be strongly geared to the presumed demands of the employment system. There are controversies as well regarding the extent to which curricula, teaching, and learning in higher education should guide the students directly in the transfer of knowledge to professional problem-solving and address personality development in a direct way. All three domains of the discourse are affected by the overall philosophical and political issues of the role of higher education vis-à-vis economy and society that might be characterized as "ivory tower", reflective, subordinated, pro-active or even revolutionary.

One could argue that this discourse has remained relatively elitist. There are discussions whether about nine tenth in one extreme or only about half of the graduates in the other extreme transfer to a typical graduate job. There are widespread notions that possibly up to half of the students will not enjoy an academic climate characterized by a close link between teaching and research. Many discussions on the future of higher education concentrate on the competition among "world class universities" (Hazelkorn 2011; Shin et al. 2011) with little attention paid to the others. Many university professors in some European countries where the first degree was on master level in the past consider bachelor graduates as immature, as

far as intellectual standards and personality development are concerned (Teichler 2014). Last but not least, international organisations have advocated since the 1980s that tertiary education become the dominant frame of reference (higher education as well as other short and vocational post-secondary education sectors), but this is largely ignored in most economically advanced countries.

Serious attention is not paid to the role of higher education in a "highly educated society" (Teichler 1991). Questions remain unanswered. For example, what are the major thrusts of higher education, if the majority of graduates are in jobs that had been conceived as not being graduate jobs in the past and if a growing number of these are below the average of the labour force in terms of status and income? Do we move towards increasing "cooling out" or towards more economic wealth, societal well-being, and cultural enhancement through the competences and the work of the many due to what was called by Martin Trow "universal higher education"? Will the vertical strata of income and status remain more or less the same, or do we move towards a "flat" society? Have the values in the recent generation changes substantially as to what constitutes a good job and why one is willing to enrol in higher education? Do we give up the idea that education matters so much (see for example Wolf 2002) as well as the ideal of an education-based meritocracy? One could argue that enrolment in higher education has increased so much in recent years that a change of perspective is overdue.

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Chapter 17
The Employment of the College Graduate: Changing Wages in Mass Higher Education

Sheng-Ju Chan and Chi-Hua Yang

17.1 Introduction

There has been increasing emphasis on the transition from higher education to employment among college graduates. This issue is becoming so prominent that some international organizations have published reports promoting different perspectives. For example, the World Bank has been keen to boost social and economic growth in developing countries and focuses its annual 2013 World Development Report on *Jobs* (World Bank 2012). The report considers the centrality of jobs in the development process as its starting point and challenges and reframes how we think about work. The Asian Development Bank (ADB) has turned its attention to '[improving] transitions from school to university to workplace' in 2012 (ADB 2012: cover page). ADB believes that in addition to further strengthening regional development, a better alignment of higher education and the workplace should be at the centre of policy making. These policy reports encourage countries to provide more able and skilled workers for economic growth and industrial transformation. The call for greater linkage between the university sector and the labour market signifies a new era focused on increasing the numbers of college graduates. It is a widespread belief that adequate provision of high-end workers is the key driver to becoming competitive globally. However, few studies have investigated the impacts of the employment prospects and potential wage levels that a massified or universal higher education system has. There is no clarity on whether college graduates can financially benefit from receiving higher education or not. A traditional quantitative method to measure these monetary advantages is the application of the econometric concept of a private rate of return to education in determining the real increase of lifelong earnings (Cohn and Geske 1990; Pacharopoulos and Patrinos 2004). This

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approach uses an average calculation according to individual lifetime periods. Although it provides a long-term prediction of differences in real earnings, it is not able to demonstrate the initial wage of young graduates who face high unemployment rates and an unstable job market. Moreover, this methodology does not purposely consider other extraneous variables that might influence the level of wages, such as the systematic expansion of higher education in certain economic areas (i.e. the increasing output of college graduates).

The primary objective of this chapter is to determine whether a massified or even a universal higher education system would have a significant impact on the real wage of a college graduate. A comparative study focusing on Japan and Taiwan was conducted to estimate this effect. These countries were selected for two: first, they are located in the same geographic region and have been experiencing different rates of higher education expansion over the past two decades (Japan's is gradual and stable while Taiwan's is relatively rapid and fast); second, the net enrolment rate of higher education in these two countries has exceeded 50 %, the conceptual threshold for a universal higher education system proposed by eminent American scholar Martin Trow in 1973. By manipulating the characteristics of these countries, time series analysis was adopted to explore the dynamic relationships between wages and higher education expansion in a comparative manner.

This chapter is composed of five parts. First, we examine the relationship between higher education and employment with reference to the role of knowledge. This is followed by a debate about higher education and wages. Several conceptual stances are explored and discussed with respect to how or why higher education is related to wage level. A complete illustration about methodology is presented in the fourth part of this chapter. The fifth part reports an in-depth analysis into the changes in the initial and average wages from the 1990s to 2012 in both Japan and Taiwan. We present a discussion in the sixth part in terms of relevant literature, competing theories, and empirical evidence. The final part presents the conclusion and policy implications.

17.2 Higher Education and Employment: The Role of Knowledge

The greater linkage between the higher education sector and the world of work is a recent phenomena (Teichler 2009). Traditionally, university education has been regarded as purely positional goods representing higher social status. Attending a university is mainly a cultural or social activity without economic connotations, simply because in this context students can broaden their vision, expand their knowledge, cultivate their personality, or shape their values, as suggested by German philosopher Eduard Spranger. This was a time during which a very few of the same age cohort were allowed to enrol in higher education institutions. What students learn from the university campus, to some degree, might not be so relevant to the

outside world. However, this disengagement with the economic world changed rapidly when the modern societies became increasingly industrialized. With the advancement of modern technology and economic production, there was a growing need for college graduates. In this scenario, the output of the university, namely students, becomes a major raw material for the industrial sectors. The labourers or workforce generated by higher education form a fundamental basis for economic production.

However, higher education and employment are far from exhibiting a simple or linear relationship, even though their integration has intensified in recent years. Examining this issue at a societal level, there are three major themes to be addressed according to Ulrich Teichler (Chap. 20): a quantitative-structural theme, functional discourse, and substantive discourse. The first theme relates to the total number of college graduates that a society should produce or educate in order to meet the needs of its social and economic development. Unfortunately, there is no simple standard or criteria to assess this question. However, overprovision should be prevented as a waste of expenditure, investment and human capital. Second, we address to what degree the graduate of higher education is required to fulfil the expectation of the labour market. Due to its complex nature or multiple functions, higher education is not entirely focused on job preparation. It has been said that there should be a correct balance between the pursuit of theoretical knowledge and the provision of occupational training. However, there is an obvious tendency of greater 'vocationalism' in recent years (Grubb and Lazerson 2005; Johnson et al. 2015). The final theme, substantive discourse, is related to the core competencies, skills, and knowledge needed for better employment. Within massified higher education, students are frequently required to upgrade or equip themselves with diverse skills, 'suitable' personality traits, and professional knowledge (Allen et al. 2005). The intensive discussion centring on this matter reflects a critical reality that graduates have to compete for better salaries or vacancies by offering the right or qualified characteristics in this competitive labour market. Employers pay more attention to the quality of college students in order to raise an enterprise's effectiveness as a whole. As Teichler (2009) indicated, these three themes vary but are deeply interlinked. For example, in an elite higher education system where graduate provision is limited, students are not under intensive scrutiny in relation to their core competencies and skills. Similarly, if a society is not so concerned with the mission of occupational preparation, then the substantial competencies of a graduate will not be emphasized so much. Within this relationship, a loose alignment between higher education and employment is preferred, since other missions of higher education, as indicated earlier, occupy certain positions.

In reviewing the international trends, the expansion of higher education has been a compelling trend for not only developing countries but also developed countries over the past decades (Tapper and Palfreyman 2005; Palfreyman and Tapper 2009). As Tapper and Palfreyman (2005) have indicated, 'demands for wider access has historically been a complex process, in which personal preferences, *economic pressures* and political variables are interwoven' (pp. 1–2).

Adopting a similar stance, Dr. Akito Amira (2002), former Minister of Education of Japan, argued that 'it is necessary to consider how many university graduates are required by a society, especially from *an economic point of view*' (p. 10). Having an expanded higher education sector fulfils two intertwined objectives from economic point of view: the provision of a more qualified workforce and the achievement of a knowledge-based economy. OECD (1996) has openly endorsed a society where its economic system is largely driven by knowledge. The further development of this type of society relies heavily on intensive innovation and technology advancement on the basis of knowledge or high-end workforce rather than capital or raw materials. Given this visionary planning, 'employment in the knowledge-based economy is characterised by increasing demand for more highly-skilled workers.... Government policies will need more stress on upgrading human capital through promoting access to a range of skills, and especially the capacity to learn' (OECD 1996, p. 7). The employment demand for a skilful workforce under the new economy framework inspires the need for more graduates with higher degree. Due to the key position of knowledge in boosting economic development, 'the science system, essentially public research laboratories and institutes of higher education, carries out key functions in the knowledge-based economy, including knowledge production, transmission and transfer' (OECD 1996, p. 7). Higher education is encouraged in order to widen student admission and train more qualified labourers within a knowledge-based economy. Referring to the functional discourse highlighted by Teichler (Chap. 20), a closer alignment between higher education and economic development or employment is needed. This macro perspective inspires many countries in the Asian region to expand their higher education sector or even upgrade their post-secondary institutions (Huang 2012; Wang 2003).

17.3 Debates About Higher Education and Wage: Expansion as an Intermediate Factor

There seems to be a systematic imperative to expand the higher education sector in the belief that society can benefit from such initiatives. However, it is less clear whether receiving more education is desirable or not at the individual level. The evidence is conflicting, especially as different conceptual frameworks are examined. A traditional human capital approach promises positive monetary gains in terms of more schooling while the signalling approach is not so clear. Worse still, if inflation of education credentials occurs as a result of the over-provision of higher education degrees, then wages might decline because there are too many graduates. In other words, a massified higher education system could be a negative intermediate factor influencing individual wage/earning level. This section will present a brief discussion on these various issues and examine the available evidence from academic publications, particularly from the Asian region.

17.3.1 Positive Assertion: Human Capital Approach

The traditional and most convincing argument for the expansion of higher education comes from the human capital theory endorsed by American economists such as Theodore William Schultz and Gary Becker in the 1960s and 1970s (Pacharopoulos and Patrinos 2004). Based on their theory, one of the main determining factors in explaining the extra productivity of a company is the relative quality of its workforce. With better skills, knowledge, and competencies employees are able to raise their overall institutional effectiveness and productivity. University educated individuals are said to earn more during their lifetimes than their counterparts. 'The monetary gains from a college education rose sharply during the 1980s to the highest level during these fifty years. The earnings advantage of high school graduates over high school dropouts also increased' (Becker 1994, p. 17).

Pacharopoulos and Patrinos (2004) summarized important quantitative measurements of rates of return from education and pointed out that receiving education is beneficial both to the individual and to society. For high-income countries ($9,266 yearly income or more), the private and social rates of return from higher education are 12.4 % and 9.5 %, respectively. In other words, a university degree holder is expected to earn more privately and socially. The private rates of return are even higher than the social ones due to the public subsidization of education. According to a recent publication from the OECD (2012), the long-term economic advantage for an individual in having a tertiary degree instead of an upper secondary degree is more than USD 175,000 for a man and USD 110,000 for a woman. These data show that investing in higher education has been good for both individuals and countries. The OECD (2012) asserts that this economic advantage will remain the same in the future as long as societies need more high-level skills. These theoretical arguments and empirical evidence, based on a human capital approach, point to an inevitable expansion of higher education. However, there is a counter argument.

17.3.2 Negative Prediction: Inflation of Education Credentials

The main counter argument against further expansion towards mass or even universal higher education lies in the fear of credentials' inflation. The first of Teichler's three themes deals with the quantitative provision of higher education. If a society does not require many college graduates, education credentials could be devalued as a result of excess supply. This means that expansion can be a negative factor influencing the wage level for graduates. There are three interrelated reasons why credential inflation or devaluation occurs: overprovision, mismatch, and rising tuition

fees. The most common argument is related to overprovision. As the famous Japanese sociologist of education Takehiko Kariya (2011) has pointed out:

> Overall, university education has expanded rapidly, although the labour market has failed to keep pace with such expansions, offering fewer university-level jobs than before. This causes credential inflation. (p. 91).

This statement indicates that there are insufficient job vacancies for university degree holders. Some college graduates undertake work that does not necessarily require university-level capacity. Overprovision of college graduates further complicates the mismatch with respect to the professional skills needed in the labour market. Usually a mismatch takes place when the level or type of education/expertise is not aligned with the job. Both situations would lead to lower earning power for employees. With regard to the former type, over-education is the primary reason for this, making a university degree less valuable (Tsang and Levin 1985). Kariya (2011) concluded that 'university degrees, even those from middle-rank universities, are no longer valuable enough to guarantee stable high-skill positions' (p. 91). Only graduates of elite universities remain competitive enough to secure valuable positions.

The final factor in explaining credential inflation is the rising cost of pursuing a university degree (Ehrengerg 2002). No longer offering a pure public good, higher education institutions have become more privatized and charge higher tuition fees for their services. Pursuing higher education can entail significant personal costs (OECD 2012). Students are forced to share some of the financial burden of their study, causing some to go into debt before securing their first job. The total cost of having a university degree is increasing. Based on previous factors and the reasons discussed, the advocates of credential inflation assert that the subjective perception of value with respect to a university degree is declining.

17.3.3 Neutral Stance: Screening and Signalling

Countering the negative prediction about the value of a university degree in an expanded higher education system, some have adopted a neutral approach in interpreting the function of the university in the labour market. This approach regards education as a function of the job market signalling (Spence 1973; Brown and Sessions 2004). Unlike the human capital approach, the screening or signalling approach denies the possibility that education can improve personal skills or competencies through the teaching and learning process (Bedard 2001). It sees (higher) education as serving the function of signalling. According to Spence (1973, p. 358):

> The individual, in acquiring an education, need not think of himself as signalling. He will invest in education if there is sufficient return as defined by the offered wage schedule. Individuals, then, are assumed to select signals (for the most part, I shall talk in terms of education) so as to maximize the difference between offered wages and signalling costs.

In other words, this approach deems signalling cost as 'investment in education.' It suggests that an individual should receive a higher education simply because this

is the additional cost one must pay for a higher salary. Some do not believe the real effectiveness of education in general. Credentials only act as a device to aid in the selection of employees with high ability. Signalling theory has been criticized for being unable to 'explain most of the positive association between earnings and schooling.' Furthermore, 'companies do not want information on success in schoolwork, but in terms of their abilities and performance in the context of working life—the discipline imposed by factories, the need to please customers and get along with fellow employees, and so forth' (Becker 1994, p. 20). In spite of such criticisms, this approach highlights the view that credential or education, from the perspective of the employer, can predict the potential of workers. One primary concern remains: what happens to the effect of signalling or screening if the number of college graduates increases rapidly? This is the question we would like to answer in this chapter.

17.3.4 Expansion as an Intermediate Factor

When reviewing the employment situation of college graduates, the scale of higher education might be an intermediate factor in determining the wage levels that employees can receive. We also examine the imperatives urging further expansion or access to higher education as a result of economic pressures. Mass higher education has been a hot issue for decision makers, university leaders, researchers, students, and the public. According to well-known scholar Martin Trow's classification (1973), there are three types of higher education sectors: elite, mass, and universal. For the elite system, no more than 15 % of same-age cohort students enrol in college and the university. When the figure is between 16 and 50 %, it can be deemed a mass higher education system, while more than 50 % brings the distinction of a universal system. Some scholars use the phrase 'post-massification of higher education' to describe the process of transition from mass higher education toward the next stage of higher education expansion (Huang 2012).

According to Trow's framework, Japan and Taiwan became 'universal higher education systems' in 2004, reaching a 50 % net enrolment rate (NER) in higher education. Some academic studies indicate that such a universal system has negative impacts on graduates' income level. For example, Yang et al. (2011) investigate the rate of returns to postgraduate education in Taiwan during the 1990–2004 period. Although they confirm the positive return to these students ranging from 1.40 to 11.67 %, they also find that 'the sharp increase in the supply of postgraduate labour appears to have a negative impact on an individual's wage premium' (p. 359). This declining trend also relates to a reduction in the labour quality indicating that over expansion might make it difficult to maintain graduates' quality. In addition, when higher education become universal, prospective students expect to enjoy an economic advantage, as the human capital approach promises, but it may be that 'as opportunities for education increase, they are proving harder to cash in' (Brown 2003, pp. 149–150). This phenomenon has been conceptualised as an opportunity trap. In examining Japan's experiences in expanding higher education,

Kariya (2011) believes that disadvantaged students might suffer the most from this additional investment in education since the value of their degree is declining in the labour market, while they still have to pay rising costs for private higher education.

17.4 Methodology

In order to determine whether the continuing expansion of higher education influences the wage levels of college graduates, Japan and Taiwan were chosen to comparatively examine their initial and average wages over the 1990–2012 period. These two countries were selected because both have experienced massified and universal higher education, and both societies are regarded as knowledge-based economies with high-technology production. These characteristics provide an insightful and meaningful combination to examine the issues raised previously. A time series analysis approach was adopted in order to examine the effect of expansion by juxtaposing the net enrolment rate of higher education and real wages from the 1990s to 2012. Monetary inflation was adjusted by using the consumer price index (CPI) for initial and average wages for each country. To determine whether a college/university degree is specifically impacted, other levels of educational attainment were incorporated into the comparison of each country.

17.4.1 Definitions

17.4.1.1 Net Enrolment Rate

The net enrolment rate (NER) in higher education is the ratio of the number of students of official higher education age who are enrolled in higher education to the total population of official higher education age, expressed as a percentage. This standard applies to both countries.

17.4.1.2 Initial Wage

Initial wage refers to the starting salary (regular) that those with a certain level of educational attainment receive for the first time in the labour market.

17.4.1.3 Average Wage

Average wage denotes the regular average earnings of all employees with a certain level of educational attainment in the labour market.

17.4.2 Sources of Data

Three sets of statistics are needed for the analysis: consumer price index (CPI), initial and average wages, and net enrolment rates (NER). In Japan, CPI is obtained from the Statistics Bureau, in the Ministry of Internal Affairs and Communications from 1991 to 2012.[1] Initial and average wages data are collected from the Ministry of Health, Labour and Welfare.[2] NER comes from the Ministry of Education, Culture, Sports, Science, and Technology.[3] For Taiwan, CPI is obtained from National Statistics, Taiwan, for the period 1991–2012,[4] and initial wage information is available at the Council of Labour Affairs.[5] Average wages data are obtained from the Department of Statistics, Ministry of Education[6] and data on the NER in Taiwan from 1991 to 2012 have been compiled[7] by the Department of Statistics, Ministry of Education.

17.5 Changing Wages in Japan and Taiwan

In this section, we turn our attention to the empirical evidence by presenting changing figures of initial and average wages in a longitudinal manner. In the first part we analyze Japanese data, then Taiwanese data. Our preliminary findings indicate that both countries, to some extent, suffer stagnant or declining wages not only for college graduates but also for other levels of educational attainment. This seems to indicate that the continuous expansion of higher education does play a role in determining the wages level.

17.5.1 Japan

In this section, we investigate the changing initial and average wage levels of college graduates along with the trend towards expansion from the 1990s to 2012. In contrast with their relative developments, other levels of educational attainment are also juxtaposed with college and university education. The data are separated by gender.

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[1] The website information can be found at http://www.e-stat.go.jp/SG1/estat/List.do?bid=000001033701&cycode=0

[2] Respective data are from http://www.mhlw.go.jp/toukei/list/53-1a.html and http://www.mhlw.go.jp/toukei/list/chingin_zenkoku_a.html

[3] Information can be found at http://www.e-stat.go.jp/SG1/estat/Xlsdl.do?sinfid=000002028281

[4] National Statistics, Taiwan: http://www.stat.gov.tw/public/data/dgbas03/bs3/inquire/cpispleym.xls

[5] Council of Labour Affairs: http://statdb.cla.gov.tw/statis/webproxy.aspx?sys=210&kind=21&type=1&funid=q19031&rdm=ffffffff

[6] https://stats.moe.gov.tw/files/important/OVERVIEW_Y11.XLS

[7] https://stats.moe.gov.tw/files/ebook/indicators/101indicators.xls

17.5.1.1 Initial Wage

It is clear that both male and female college graduates have enjoyed a marginal increase in initial wages of about 10 % over the two decades (see Figs. 17.1 and 17.2). This means only 0.5 % growth of real wages has taken place after adjusting for inflation. Except for infrequent fluctuations such as the East Asia financial crisis in 1997–1998, the curves for both males and females are similar. As far as the expansion speed of higher education is concerned, the growth trend of the net enrolment rate is also moderate, moving from 38 % in 1991 to 56 % in 2012. During this period of time, higher education in Japan was transformed from a mass to a universal system with greater participation. In terms of economic development, Japan also experienced its 'Lost 20 Years' caused by the asset price bubble collapse in 1990 (Krugman 2009). The price of stock and land declined dramatically which in turn damaged the whole industrial sector, labour market, and employment. The relatively stagnant real initial wages for both males and females actually reflected this wider economic environment. Interestingly, the moderate expansion of higher education seems to have had no effect on the wage level during this economic turbulence. Moreover, if we compare different levels of educational attainment, the changes in initial waged during the same period seem to be very similar. This means that their initial wages fluctuate with the economic cycle regardless of their levels of education attainment. We can also conclude that moderate increases in the number of college graduates does not produce negative impacts on the initial wages for those with lower levels of educational attainment such as junior college and senior high school. The changes in starting salary for males and females during this period are similar.

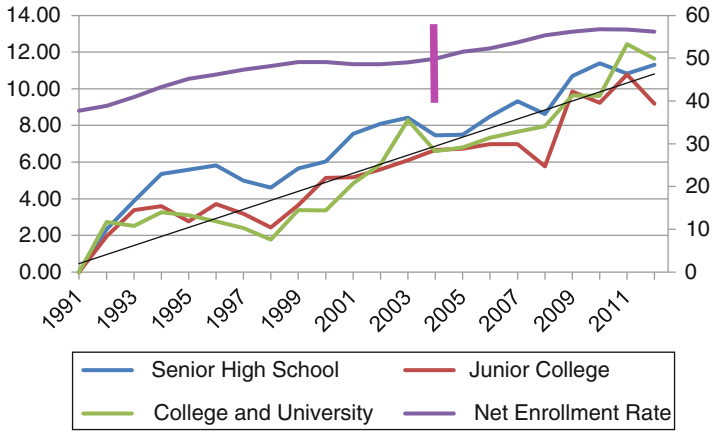

Fig. 17.1 Initial wage for males in Japan from 1991 to 2012 (percent)

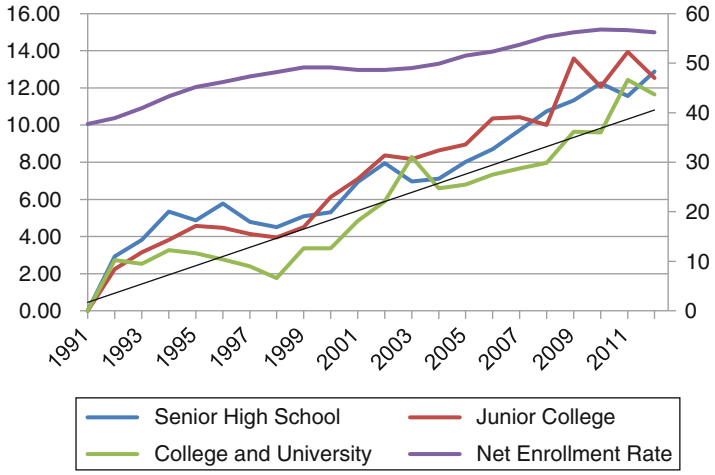

Fig. 17.2 Initial wages for females in Japan from 1991 to 2012 (percent)

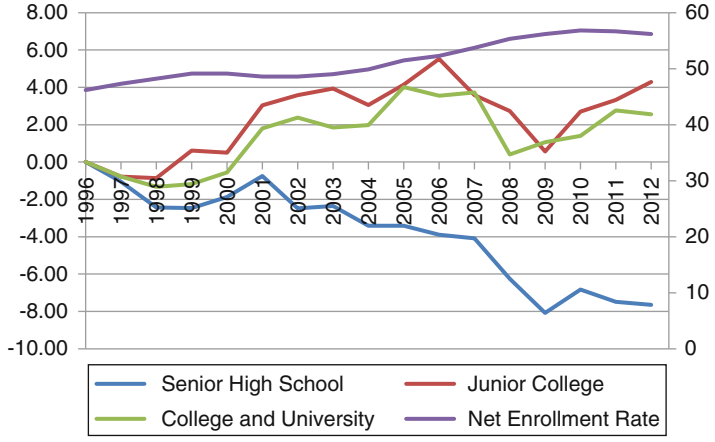

Fig. 17.3 Average wages for males in Japan from 1996 to 2012 (percent)

17.5.1.2 Average Wage

Whereas the initial wages over the past two decades were acceptable, the average wages, particularly for Japanese males, were much less satisfactory. Figure 17.3 shows that the average wages of male college graduates in Japan experienced a recession before 2000, probably because of the financial crisis in East Asia starting in 1997. Although the average wages saw real growth in 2001, the magnitude is relatively small and never surpassed 4 % thereafter. Compared to 1996, this figure was

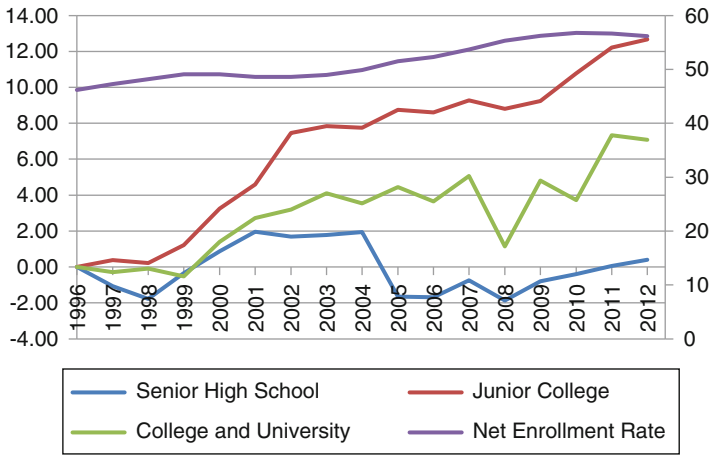

Fig. 17.4 Average wages for females in Japan from 1996 to 2012 (percent)

close to zero during the global financial crisis of 2008. This kind of growth in average wages is extremely limited. Figure 17.4 demonstrates that for Japanese females a similar pattern emerges as that for males. After experiencing a short downturn in average wages before 1999, female college graduates began to enjoy real but limited increases of up to 7 %. Similarly, due to the greater financial recessions in 1997 and in 2008, average wages are lower compared to other years. Turning attention to other levels of education attainment in Figs. 17.3 and 17.4, we find that senior high school graduates suffered most from 1996 to 2012. Their real average wages never returned to 1996 levels, and males even suffered a greater than 10 % decrease of income after 2009. The reasons for these negative impacts on average wages are difficult to determine. However, the long-term economic stagnation and moderate expansion of higher education in Japan are key factors that should be considered. Too many college graduates in the labour market tend to push wages lower if the provision of university-level jobs is insufficient. Japan seems to have had a mismatch of this type between the university sector and the employment market.

17.5.2 Taiwan

In this section, we investigate the changing initial and average wage levels of college graduates along with the expansion trend from the 1990s to 2012 in Taiwan. In contrast to their relative developments, other levels of educational attainment are also juxtaposed with college and university education.

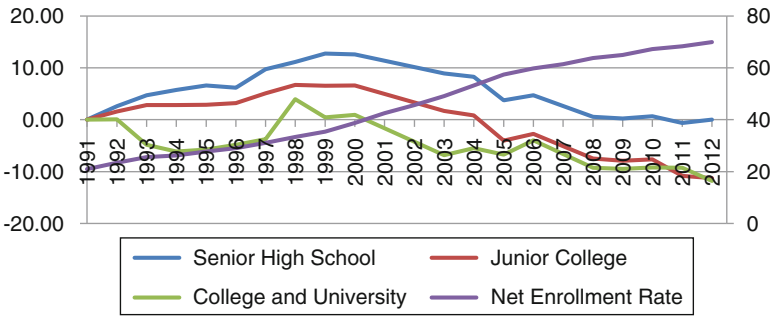

Fig. 17.5 Initial wage in Taiwan from 1991 to 2012 (percent)

17.5.2.1 Initial Wage

The Taiwanese data for the initial wages of college graduates presents a negative picture. Figure 17.5 indicates that, unlike Japan, the initial wages of Taiwanese college graduates have been consistently lower than 1991 levels, except for 1998, 1999, and 2000. The situation has deteriorated in recent years since the global financial in 2007–2008. In 2012, the wages level was 10 % lower compared to 1991. This means that a university graduate in today's market, earns 10 % less than someone with the same educational qualification 20 years ago after inflation adjustment. Although senior high school and junior college graduates do better, as seen in Fig. 17.5, the overall pattern over those two decades is remarkably similar to college graduates. The year 2000 was a watershed during which initial wages for all levels of educational attainment began to significantly reduce. The magnitude of fluctuation is more than 10 % between the lowest and highest levels. For example, college graduates enjoyed almost a 4 % real increase in 1998 but suffered more than 10 % real decrease in 2012. If we compare this development to the expansion of higher education over the same period of time, we see that Taiwan has been experiencing a dramatic and rapid transformation from an elite system to a universal system. More than 50 % of those in the same age cohort have been able to enrol at a university since 2004. In other words, Taiwan has a universal higher education sector but the initial wage has been dropping since the early 2000s. This linkage will be further examined later. The decrease in college graduates' initial wages is even more serious than for other levels of educational attainment. This greater loss means that degree holders have suffered the most over the past two decades.

17.5.2.2 Average Wage

The data for average wages according to level of educational attainment in Taiwan is available as from 2000. The shape and curve as seen in Fig. 17.6 are similar to that in Fig. 17.5. The average wage for college graduates has continuously declined and is

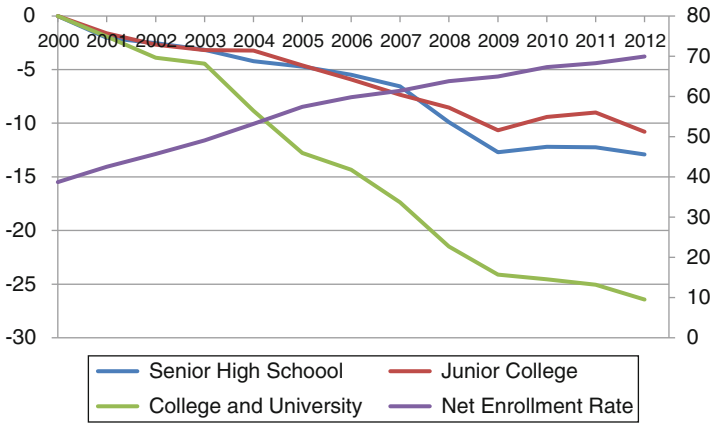

Fig. 17.6 Average wage in Taiwan from 2000 to 2012 (percent)

now more than 25 % lower than in the year 2000. Moreover, the slope of decline is more severe than for senior high school and junior college graduates. This trend is contrary to the situation in Japan, where senior high school graduates suffer the most with respect to average wages. This might also contradict the hypothesis of the human capital approach that education can raise people's ability and competencies and in turn promote their employment value. Our statistical data seem to suggest that Taiwan could be a counter example. Taking the rapid expansion of higher education over the past 20 years into account may suggest that the labour market has been not able to sustain so many college graduates and thus results in declining average wages in general. One point to be noted is that the proportions of declining average wages for all levels of educational attainment are much worse than the initial wages both in Taiwan and Japan. This phenomenon would create a narrower gap between the initial and average wages in recent years as compared to 1990s. Employees, therefore, have to devote extra effort and demonstrate higher competencies and productivity if they are to achieve the same income level as earlier years.

17.6 Discussion: Mixed Messages Regarding Changing Wages

This chapter examines the situation of college graduate employment in terms of changes in wages within a mass higher education system. The data from Japan and Taiwan convey a complicated message to the public, students and parents, higher education leaders, and policy makers. As Teichler (2009, 2014) has mentioned, one of the main goals for employment is to determine how many graduates a university should supply to the society and industrial sector. Literature review has shown that further expansion of higher education sector is the main direction and aims to

provide a highly skilled workforce for the knowledge-based economy. Both societies, at least for policy makers, believe that a greater provision of human resources will be beneficial for economic development. This macro-planning approach promised a sufficient supply to the labour market to transform the current economic structures into an innovative, service-oriented, and knowledge-intensive entity. This is particularly true for Taiwan which has been keen to widen the participation rate in higher education in a short time frame. However, this overall societal strategy towards the university sector may create difficulties for individuals.

Judging from the above evidence in Japan and Taiwan, the prediction of human capital approach seems to be invalid. Although the initial wage for Japanese employees increased slightly between the 1990s and 2012, this does not apply to the Taiwanese. Similarly, the average wages in Japan seem to have experienced very limited increase – 4 % (males) and 7 % (females) – whereas Taiwan has seen a large real income loss of more than 25 %. This reflects the reality that any student with an idea of the human capital approach enrolling at a university in Taiwan could face double losses financially. On the one hand, they have to pay the rising costs of attending college; on the other hand, their average wage has been dramatically reduced over the past decades. Their belief that they will earn more as a result of obtaining a university degree is difficult to realize. The shrinking real income in Taiwan confirms the prediction of credential inflation such that more graduates might devalue university degrees. In contrast, Japanese figures suggest that college graduates still obtain marginal wage increases. However, if we take into account the higher tuition and greater privatisation in Japan and Taiwan, the real perceptions of value that a university degree earns is actually declining.

The narrowing gap between initial wages and average wages from the 1990s to 2012 in both Japan and Taiwan has led to a more fragmented and unstable career path for college graduates. Less income differences means employees are more likely to maintain relatively flat wages. Experienced workers have to prove their value to companies in order to earn a higher salary after their initial employment. This links to the third major theme, substantive discourse, as proposed by Teichler (2014) about what aspects of knowledge and competences are crucial for job tasks. The on-the-job test or approval in terms of capacity can make employees' occupational prospects more unpredictable and less profitable economically at an early stage of employment simply because they might not demonstrate outstanding performance. This also illustrates that a signalling or screening effect could be less valid. This is because such an effect is weaker in a massified or universal higher education system than in an elite context. Employers might ignore the signal of higher education and instead focus on job performance. If this is the case, the individual still has to share rising signalling costs but is unable to secure higher wages later.

In further investigating the effect of expanding higher education on employment in general and wage levels specifically, Japan and Taiwan present slightly different scenarios. Japanese data tend to support the human capital approach's assertion and partly verifies the claim of credential inflation. On the contrary, the Taiwanese case confirms the validity of credential inflation and casts serious doubt about the human capital approach in a universal higher education system. The human capital approach

strongly believes that more schooling creates a better position in the labour market and in turn leads to a greater lifelong salary. However, when the decline in average wages for college graduates is much more than that for other educational attainments, there is a question as to whether well-educated workers with better competencies and skills really enjoy an employment advantage as proposed by the human capital approach.

The roles of higher education in these two societies vary in terms of explaining their impacts upon changes in wages. As analyzed, Japan went through a slow and moderate growth in higher education between the 1990s and 2012, while the Taiwanese expansion was very rapid and comprehensive. The NER of the latter even reached 69 % in 2012 (from 21 % in 1991). This would provide the labour market less space and time to absorb the extra college graduates produced. Using data from 1990 to 2000 in Taiwan, Chuang and Lai (2010) suggested that the trend of declining return to university education may have been caused by the rapid expansion of the number of colleges and universities and the increasing supply of college graduates in the 1990s. Gindling and Sun (2002) confirmed that the decrease in the wages of workers with higher education, as compared to non-degree holders, is attributable to the increased number of students enrolled in universities and junior colleges in the 1990s. The findings from Taiwan are consistent with the hypothesis that relative supply changes were more important than relative demand changes in determining relative wage changes. When the relative supply of workers with higher education increased in response to the expanding access to higher education, relative wages for workers with higher education fell.

Policy makers need to pay greater attention to the demand side as a key factor. In general, if the economy is able to create more university-level jobs, the wage level can be maintained. Otherwise, declining wages are reasonable. English experiences indicate that the main increase in first employment positions stems from the associate professional and technical or non-graduate jobs rather than from managers' or professional vacancies (Pearson 2006). Neither Japan nor Taiwan is successful in upgrading its economic structure and providing more university-level jobs consistent with the expansion of higher education. In an article examining education, employment, and wages, American economist Carnoy (1997) stated that 'improved education and more training is not a proven recipe for overcoming serious unemployment or wage decline'. In other words, it could be a waste of time to view education as a remedy to labour market or declining wages. If there is no strong demand for skilled workers, such measures are unlikely to raise employment or wages in the long term.

17.7 Conclusions and Implications

From his analysis of the English labour market, Pearson (2006) concluded that there is a demise in the graduate labour market. Employment opportunities, structure, and development present serious challenges to their college graduates. 'For the majority,

moving into employment is a slow transition with many experiencing several years of turbulence and having to compete for jobs with non-graduates and experienced candidates, before they settle into an increasingly fragmented labour market' (Pearson 2006, p. 76). Our analysis of Japan and Taiwan to some extent agrees with these wider scenarios. The stagnant or reduced wage levels over the past two decades have created a very unstable and unprofitable environment for young employees. As Brown (2003) has argued, attending college was once an important means of raising capacity and earning a higher income over the long term. This may no longer be the case. An individual earning a university degree does not automatically enjoy better employment or higher wages, and in both countries, college graduates suffer greatly from inert or reduced wages.

For governments, a promised future of knowledge-based economy might be politically correct for macro-developmental planning by fostering a mass or universal access to higher education. However, in terms of personal employment prospects, declining or stagnant wage levels pose a heavy financial burden on investment in higher education. This issue is particularly pertinent for students with disadvantaged backgrounds who mainly enrol in private higher education institutions charging much higher tuition fees in Japan and Taiwan (Huang 2012; Chou and Wang 2012). The supply-side approach, providing more able and highly skilled workers to boost economic growth, is inconsistent with the individual dreams of gaining better positions or earning a higher salary in the labour market. The conflict between macro planning at the national level and micro needs at the individual level are becoming more acute around the globe. Any country interested in expanding higher education as a solution in reviving the economy should be very careful about this dilemma.

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Chapter 18
The Quality of Mass Higher Education in East Asia: Development and Challenges for Asian Quality Assurance Agencies in the Glonacal Higher Education

Angela Yung Chi Hou

18.1 Introduction

Throughout the centuries, "higher education has remained at the one and at the same time, global, national and local. From its beginning, the university was always rooted in local settings, while at the same time it connected to a larger international field of knowledge" (Marginson et al. 2011, p. 5). At a time when the world is getting flatter, higher education systems, the institutions that comprise them, educational policy makers, and quality assurance agencies are all supposed to interact simultaneously in the global, national, and local contexts. Simon Marginson called this higher education phenomenon in the twenty-first century the "Glonacal" era (Marginson 2011).

With the rapid expansion of higher education institutions throughout the world and due to the increasing tendency to regard education with a perspective of market-based orientation; students, parents, higher educators, employers and governments have a much greater interest in the actual academic quality of universities and colleges in various dimensions in the glonacal era. Universities and colleges are definitely beginning to take on accountability toward related members of the school and societies in the same way that private enterprise does. In this way, universities are supposed to act as an effective organizer and a good learner on how to improve their quality, particularly in research and teaching quality, through several assessment tools (Henard 2010). Hence, a major concern for Asian governments is how to assure quality in higher education and how to enhance global competitiveness through a variety of national policies and institutional engagement. As a result, quality assurance mechanisms, which emphasize on output monitoring and measurements and

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systems of accountability and auditing, have become more popular in Asian and other regions (Marginson 2007).

Up to the present time, nearly 90 % of the governments in the Asian Pacific region have successfully developed a national quality assurance system, by setting up a national accreditation body whose principal role is to accredit local tertiary education institutions and academic programs. Prior to the establishment of national accreditation body, local accreditors had emerged in some Asian countries. The local accreditors are self-funded agencies, "without any intervention of central governmental in its establishment or functioning" (Matrin and Stella 2007, p. 82). The local accreditor's role has been to undertake review of certain groups of universities or types of programs by using a voluntary approach. To date, half of the Asian nations have more than two accrediting bodies, including Japan, Hong Kong, the China, Philippines and Taiwan. Along with establishment of national and local accreditation body, the global competition also entails growth in the international accreditation (Knight 2005). Emergence of international accreditors, particularly those from U.S., started to provide another alternative for accreditation for Asia-based institutions.

Based on these discussions, this chapter highlights the characteristics of quality assurance agencies and the current development of Asian quality assurance system in the glonacal era of higher education. Also, this chapter will address the major challenges faced by Asian quality assurance agencies, including internationalization, autonomy and accountability. Moreover, one initiative, mutual recognition of quality assurance agencies' decisions by APQN's **G**IQAC project will be presented at the end of the chapter.

18.2 Asian Quality Assurance Systems in a Glonacal Context

18.2.1 The Anatomy of Asian Quality Assurance (QA) Agencies and Their Assessment Tools

Asian QA agencies are very diverse in terms of their history, size, maturity, budget, nature, subjects and review approach (Stella 2010). An investigation of 17 APQN agency members found out that several agencies have been set up for a long time and are trying to make further improvements, such as the Japan University Accreditation Association (JUAA) which was founded in 1947 (Hou 2012a). Some have well-established policies and procedures that can be learned by other agencies, like the Hong Kong Council for Accreditation of Academic and Vocational Qualifications (HKCAAVQ). Some agencies have only recently established their policies and procedures, for example, the National Center of Public Accreditation in Russia (NCPA) which was established in 2009.

Most QA Agencies are pubic organizations that are funded by government. A few are self-funded by charging application fee from institutions, such as NCPA,

HKCAAVQ, and the Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP). Yet, even these QA agencies still received partial support from government. Asian QA agencies vary in size and budget, too. The biggest agency is the Malaysia Qualification Agency (MQA) with 320 staff, while the smallest, the New Zealand Universities Academic Audit Unit (NZAAU), only employs one staff member. Annual budgets of the agencies ranged from $30,000 USD to 33.3 million USD among these accrediting bodies.

In terms of review subjects, more than 70 % undertake reviews at the program and institutional levels. There is one agency, NCPA that undertakes program review only In contrast, the National Institution for Academic Degrees and University Evaluation (NIAD-UE, Japan), the Office for National Education Standards and Quality Assessment (ONESQA, Thailand), the National Assessment and Accreditation Council (NAAC, India) and New Zealand Universities Academic Audit Unit (NZAAU, New Zealand) mainly implemented institutional evaluations only. In addition to higher education institutions, some of the agencies accredit vocational educational schools, such as the Malaysia Qualification Agency (MQA), the General Department of Education Testing and Accreditation (GDETA, Vietnam), and the Office for National Education Standards and Quality Assessment (Thailand, ONESQA).

"Accreditation", "Evaluation" and Audit" are the three major assessment tools adopted by Asian QA agencies. U.S. based Council for Higher Education Accreditation (CHEA) defined "accreditation" as "a process of external quality review created and used by higher education to examine colleges, universities and programs for the purposes of quality assurance and quality improvement" (CHEA 2008, p. 12). In other words, accreditation, "is a voluntary process of approval of an institution or program by an accrediting agency or body" according to its own mission and goal (WASC 2008). For example, HKCAAVQ and Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT) adopted "Accreditation" concept to assess programs and institutions.

As to "evaluation", it involves decisions by peers and/or stakeholders concerning an individual institution's achievement, excellence and/or potentials. "Evaluation" clearly "focuses more on how successfully the institution is achieving its goals and objectives" (Japanese National Institution for Academic Degrees and University Evaluation 2007, p. 4). It often involves a culture of self reflection and self-improvement. NIAD-UE is among one of the agencies.

Similar to the previous terms, but "audit" focuses more on "evaluating processes rather than quality" (INQAAHE 2014a). Instead of assessing the institution, the aim of "audits" is intended to ensure that the institution has a clearly-defined internal quality monitoring procedures linked to effective action and implementation (INQAAHE 2014a). NZAAU is the agency which adopted "audit" in institutional assessment.

Currently, there is little evidence about the actual positive impact from QA agencies on higher education institutions (Lemaitre et al. 2011; Hou et al. 2013). Yet, some Asian agencies demonstrated their outcomes through the number of programs and institutions accredited within a year. The National Accreditation Agency for

Higher Education/(BANPT) (Indonesia), for example, accredited a total number of 2,986 programs and 16 institutions in the year 2011. Higher Education Evaluation and Accreditation in Taiwan accredited 81 institutions in the year 2012.

18.2.2 Emergence of International Accreditors in the Glonacal Context

Asian higher education responded in various ways to *glonacal* trends, such as growing social demand, privatization, accountability, marketization, economic growth and internationalization. The international capacity of higher education systems is closely entwined with national economic growth. Scott (2011) stated twin beliefs about the quality of international institutions: "the quality of reputation of individual universities now is linked directly to the intensity of their global involvement and the global market supersedes national public service" (p. 73). According to Scott's observation, the more global the universities are, the highly recognized they will be in the region and worldwide. This increasing level of student mobility is leading to more cross-border quality review activities, and the discussion of national, regional and international standards for higher education quality is expanding (Knight 2007).

As higher education institutions in Asia are going from local to global, they are expected to be assessed beyond their national authority for student mobility and degree recognition. Within the global context, quality assurance services in Asia started to develop internationally in response to this pressure, leading to the emergence of international accreditors, particularly professional accreditors (Ewell 2008; Hou 2014). The number of professional accreditors, in fields such as business, engineering, medicine, nursing, architecture, and education, has increased rapidly due to the international mobility of graduates (Woodhouse 2010). Recently, these professional accreditors, especially U.S. business and engineering program accreditors, have begun to accredit academic programs not only at home but also abroad. For the purposes of increasing reputation and safeguarding enrollment, Asian institutions prefer to get international recognition rather than national and local accreditations. At the same time, some Asian countries, such as Singapore, South Korea and Taiwan, encourage local institutions to seek international accreditation in order to enhance academic competitiveness globally. Hayward (2001) pointed out the popularity of American accreditors: "Some foreign colleges and universities want U.S. accreditation because it is, at least at the moment, 'the gold standard' in many areas of higher education" (p. 6). Ewell (2008) responded that "U.S. accreditation may provide an additional cachet in a competitive local market especially for private institutions" (p. 153). Obviously, international accreditation is sought by more and more Asian institutions abroad as higher education globalizes in a very competitive manner (Morse 2008; Hou 2011). Yet, no matter whether international accreditation is pursued by institutions voluntarily or under pressure

from governments, it is likely to introduce "a commercial dimension to accreditation practices and the desire for institutions or providers to have as many accreditation labels or stars as possible" (Knight 2005, p. 2).

Currently, since Asian nations are generally welcoming the international accrediting bodies to provide cross-border quality assurance services for local institutions, it has resulted in integrating them into the national quality assurance framework. The emergence of three types of accreditors, at local, national and global levels, meant that a "glonacal" quality assurance system was implicitly formed in most Asian countries, such as China, Hong Kong, Japan, Malaysia and Taiwan. Few Asian nations with a developing higher education system as well as a young quality assurance agency, such as in Cambodia and Vietnam, have remained in the "non-glonacal" framework of quality assurance. *Glonacal* quality assurance systems consisting of local accreditors, global agencies and national bodies have already become standard practice in many Asian nations (Hou et al. 2013).

18.3 Challenges and Impact

18.3.1 Three Challenges: Internationalization, Autonomy, and Accountability

In the glonacal quality assurance system, "internationalization", "autonomy", and "accountability" have been outlined as the most crucial concerns for quality assurance agencies in Asia. The first challenge is international capacity building of national accreditation. The internationalization of higher education often implies the pursuit of an international image of quality and prestige in order to make the selected top institutions more globally competitive (Deem et al. 2008). This rationalizes the emergence of internationalization of quality assurance in Asia, which, taken as a symbolic and powerful indicator, is used to prove the quality standards of local institutions in a globally competitive education market (Ewell 2008). The fact that institutions in Asia are encouraged by governments to seek international accreditation, particularly from the U.S., has contributed to a new concern of national accreditors over internationalization in Asia. In other words, national accreditors are expected to internationalize their operations in various ways.

In response to global trends and local demand, national accreditors are expected to be the quality gatekeepers of cross-border education (Hopper 2007). However, it can be found that most quality assurance agencies in Asian countries are still confined to national contexts, and have no capacity to evaluate cross-border academic programs at home or abroad. While reviewing the current situation of Asian quality assurance agencies, it was found that they attempt to strengthen their international capacity in terms of networking and exchanges with other agencies via Asian Pacific Quality Network (APQN) and The International Network of Quality Assurance Agencies in Higher Education (INQAAHE). Many of them have signed collaborative

agreements with other foreign agencies. Several have set up an office responsible for international affairs or exchange. With regard to transparency on official websites, however, there is very limited information in English regarding accreditation policy, standards, and outcomes in most agencies. At present, most agencies do not have any international guidelines or principles for cross-border education. Furthermore, they do not yet include international reviewers, except Tertiary Education Quality and Standards Agency (TEQSA), HKCAAVQ, NZUAAU, and MQA.

To conclude, the internationalization policies and practices in most Asian Pacific nations are still lacking a quality assurance dimension, except in Australia, New Zealand, and Hong Kong, all of which have the advantages of English language systems. On the basis of the above analysis, it shows that most Asian quality assurance systems are still not well prepared for international operation. Under these circumstances, a question will be raised: who should be responsible for the quality of cross-border higher education and students' rights? As Van der Wende and Westerheijden noted that "It is clear that the fact that higher education is internationalizing at such speed and size, while quality assurance systems and responsibilities are still largely based at the national level, creates major tensions and challenges. Increasingly larger parts of higher education provisions escape or bypass national quality assurance systems, with consequent questions about the responsibility for quality assurance and for consumer protection" (2001, p. 235).

Due to the fact that Asian quality assurance agencies are either governmental institutions or being affiliated with a government, it has introduced the second concern for the level of autonomy that impacts national and local quality assurance agencies in Asia. Although most QA agencies including those established and funded by their governments claimed that they have autonomy over review procedures and decisions, several scholars expressed their concerns over the issue. According to APQN, Southeast Asian national QA agencies are established as governmental agencies. In contrast, Eastern Asian agencies tend to be a buffer body where the government is likely to play a major role in the agency. However, both types of the agencies are expected to serve government functions, particularly the use of accreditation outcomes in educational policy making and funding allocation. Therefore, a study by Hou (2012a) showed that Asian QA agencies admitted that it was not easy to enhance their level of "autonomy" because of their close affiliation with their national government.

Brown (2013) stated clearly that when the government develops QA initiatives as a part of higher education reform strategies, its intervention into quality assurance design becomes inevitable. Martin and Stella (2007) pointed out that "Getting the government to support the quality assurance process without losing any of the agency's autonomy or affecting its functioning is certainly an option to be considered" (p. 80). Dill also raises questions about how truly "independent, transparent, and robust" that the quality assurance process actually is (Dill 2011).

Finally, to demonstrate creditability and accountability of quality assurance procedures is the third challenge faced by Asian quality assurance agencies. Quality assurance agencies are designated to be self-critical, objective, and open-minded in checking the quality of higher education institutions (Costes et al. 2012). At the

same time, they are expected to demonstrate to the stakeholders that they have a positive impact on higher education. This is referred to as "accountability of accreditation". According to CHEAs' Eaton (2011), accountability "refers to how and the extent to which higher education and accreditation accept responsibility for quality and results of their work and openly responsive to constituents and the public" (p. 8).

Since quality assurance became recognized as a profession in recent years, quality assurance agencies are supposed to be "under review and development to ensure that they remain current and relevant" on the basis of a systematic scheme of quality (Woodhouse 2010, p. 79). It is now imperative to understand the effectiveness of the activities conducted by the QA agencies. Demonstrating the 'quality of quality assurance' has been an area of interest for all quality assurance agencies (APQN 2010a).

Currently, Asian QA agencies have adopted several "best practices" strategies to enhance the quality of their individual QA operations, such as appointing excellent evaluators, developing more effective programs on evaluator training, deepening collaboration with other QA agencies, engaging more in research activities on higher education and related issues, and even attempting to stabilize their financial bases, etc. In addition to the best practices already in place, they aggressively develop their international capacity through taking part in the QA regional and global networks in order to build trust among institutions, governments and the public.

18.3.2 The Role of International Quality Assurance Networks

As demands grow for QA agencies to be accountable, autonomous, and international, the role of international networks in enhancing capacity of Asian quality assurance agencies becomes significant. Szanto (2010) proposed four tiers of quality assurance pyramid to ensure an entire quality of higher education system. At the first level, higher education institutions need to develop an internal QA mechanism for self-assessment. Quality assurance agencies conduct an external review at the institutional and program levels. The next level involves "recognition bodies" whose role is to recognize assurance agencies in terms of professionalism, resources, independence, self-enhancement mechanisms, etc. In most countries, a national Department of Education plays the role of recognition body, and a few countries set up an independent recognition organization to review QA agencies externally. International QA networks are considered as the final quality guardians to "review the reviewers", that is, they scrutinize agency reviewers to see if reviews are conducted in an appropriate manner and in adherence to international standards (see Fig. 18.1).

INQAAHE and APQN are two leading international networks of quality assurance in higher education sector, which aim at assisting local quality assurance agencies in "determining the standards for institutions operating across national

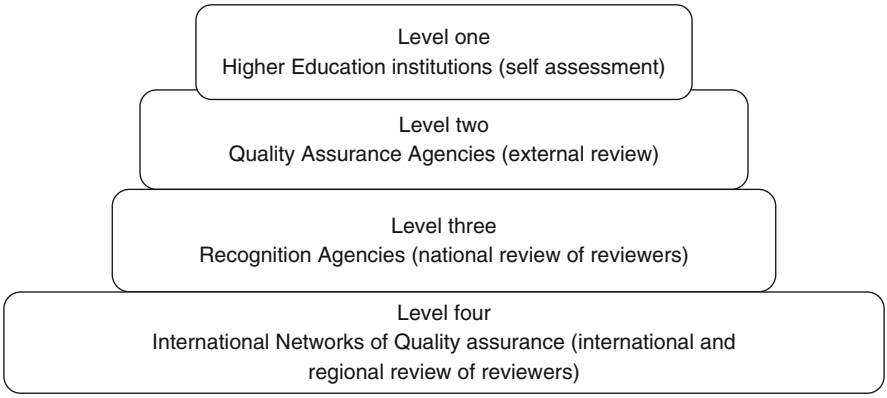

Fig. 18.1 Four tiers of quality assurance pyramid of higher education

borders" and "facilitating links between accrediting bodies especially insofar as they operate across national borders" (APQN 2010a).

To assist in the self–review and international capacity building of national quality assurance agencies, INQAAHE and APQN developed good principles and practices, titled the Guidelines of Good Practice in Quality Assurance (GGP) and the Chiba Principles respectively. The INQAAHE Guidelines which was published in 2003 and revised in 2006 are "designed to be used by all quality assurance agencies, whatever their stage of development is". The Guidelines of Good Practice have four sections and 12 principles regarding the quality of external quality assurance, institutions and cross-border education. In the last section, it states that external quality assurance should have "policies relating to both imported and exported higher education". The standards "may be the same as those for domestic providers and domestic provision" in consultation with appropriate local agencies in the exporting or importing countries (INQAAHE 2009). The document suggests that quality assurance agencies review their capacity for accrediting cross-border programs and institutions according to evidence such as the documents relating to quality assurance review of exported and imported education, description of meetings and visits to and from other agencies. Up to the present, ten quality assurance agencies have been recognized in accordance with the INQAAHE Guidelines of Good Practice, including TEQSA and NZUAAU from Asia (INQAAHE 2014b).

Established in Hong Kong in 2003, APQN, supported by the World Bank and UNESCO, is aimed at "helping to build alliances between agencies, and assisting countries/territories that do not have a quality assurance agency of their own" (APQN 2010a). To enhance mutual understanding and opportunities for collaboration in higher education quality assurance agencies, the Chiba Principles were officially announced in 2008 by APQN. They have three main sections – Internal Quality Assurance, Quality Assessment and Quality Assurance Agency. In this final section, external quality assurance agencies are expected to "cooperate with other agencies and key players across national borders" (APQN 2010a). After many

discussions among members, APQN conducted a survey to find out the extent which the principles were being implemented in the APQN members. The survey showed that the 'cooperation' section "should be expanded further to include ensuring the effective and relevant transfer of appropriately quality assured qualifications and the mobility of students and staff" (Stella 2010, p. 16). The report also found that English is an issue for most non-English speaking agencies, which suffered difficulties in communication and expressing themselves fluently in English (Stella 2010).

The guidelines of INQAAHE and APQN both addressed the importance of the internationalization, autonomy and accountability of quality assurance. In addition, INQAAHE and APQN launched several projects, such as internship programs, mutual recognition, and capacity building to ensure that agencies have access to quality assurance resources and use them "to enhance their operations and add to their creditability and accountability" (APQN 2011, p. 3).

18.3.3 QA Impact on Asian Higher Education

As quality assurance has been developed as a mature mechanism over decades, the public is more interested in its impacts on higher education. In 2011, INQAAHE conducted a project focusing on the impact of quality assurance on higher education in seven Latin American countries. It was found that quality assurance has both positive and negative impacts on higher education, including its influence on policy decision and processes, and increased value placed on teaching as a core function of universities, leading in turn to an increased bureaucratization and a heavier administrative workload. The study also showed that most positive consequences were occurring at the program level (Lemaitre et al. 2011).

In recent years, quality assurance's impacts on institutional practices have been widely discussed in Asian society, such as institutional responsiveness to public demand, their attention to teaching quality and learning outcomes, and a well-developed internal quality assurance system. Chan and Yang (2011) also found that universities' attitude toward international and local accreditors seems to be positive owing to national accreditation's compulsory approach. In order to find out the level of actual impact it has had on Asian higher education and its varying stakeholders, Hou et al. (2013) conducted a study targeting Taiwan's university's administrators and staff for their views the impacts of three national, local and international accreditation on administration, curriculum design, faculty efficiency, learning outcomes, resources allocation and internationalization of Taiwan higher education institutions. It was found that local accreditor has demonstrated their accreditation has an impact on universities in terms of assisting them to develop a closer partnership among faculty and staff, undergoing curriculum reform, improving student learning outcomes, enhancing faculty sufficiency on research and teaching, and internationalization. International accreditor tended to assist them in enhancing the quality of education in terms of closer partnership among faculty and staff, curriculum reform, student learning outcomes, faculty efficiency, and internationalization. In

comparison, 75 % of respondents replied that their national accrediting body drove them to pay more attention to teaching quality and learning outcomes.

Nevertheless, there is still little evidence of the impact of the glonacal quality assurance process on universities and colleges. When universities are required to prove their accountability through an external review process, the impact of quality assurance schemes over higher education will arouse more public concerns and discussions in Asian society.

18.4 Mutual Recognition of QA Agencies' Decisions

18.4.1 Rationales of Mutual Recognition

Due to the fact that international student mobility in higher education has been growing rapidly, quality assurance and comparability of the quality of study programs has become a growing concern for many nations. It has led the international networks of quality assurance, national quality assurance agencies, and governments to take "mutual recognition" of review decision issues into consideration.

According to David Woodhouse (2008), a former President of the INQAAHE, mutual recognition (MR) of review decisions is defined as "the recognition by two or more external quality agencies an affirmation by each that it accepts the entire or partial decisions and judgments of the other" (p. 28). Most importantly, such recognition is simply based on the agencies "having comparable aims and procedures" in the quality of scope and activity, so "they would likely reach the same conclusion in reviewing and passing a judgment on an institution, study program or qualification" (Woodhouse 2008, p. 28). The other purpose of mutual recognition is for the quality assurance of quality assurance agencies. Through the process of reaching agreements, quality assurance agencies themselves will inevitably develop a self-review mechanism to demonstrate their quality of operations. Quality assurance agencies, to some extent, don't understand each other, which led to the major obstacles of the implementation according to the international networks' experiences.

In this sense, mutual recognition will mainly beneficial to various higher education stakeholders, including students, institutions, graduates, quality assurance agencies, and employers. For students, mutual recognition will primarily provide security for students who choose to study abroad for degree and non-degree programs. Based on mutual recognition, the quality of the programs and institutions should guarantee that those students will take courses and programs which are accredited. In terms of institutions, mutual recognition is expected to reduce the workloads for them as it would "render concurrent approval and assessment processes superfluous" (Kristoffersen 2004, p. 4). Another positive effect of mutual recognition on quality assurance agencies is that knowledge and understanding of quality assurance procedures and practices will be improved among quality assurance agencies, which will facilitate not only cooperation between quality assurance agencies and higher education institutions, but also cross-border academic

activities such as the establishment of joint programs or branch campuses and might enhance global employability. It is notable that mutual recognition may assist graduates who are planning to find a job in other countries since such recognition may become a major aid for these students to get a job more easily in the global job market. Similarly, this affirmation of education graduate quality is also a benefit to employers (Kristoffersen 2004; Woodhouse 2008).

Since several international networks have been acting ambitiously and played a major role in the issue, many quality assurance agencies have gradually come to value mutual recognition for the quality of cross-border higher education and have worked cooperatively with the quality assurance networks. As Woodhouse (2008) stated, "With increasing mobility of students, institutions, graduates, and employers across national boundaries, and with most quality agencies being either nationally or sub-nationally based, consideration of the possibilities, difficulties, advantages and drawbacks of mutual recognition of the activities of quality agencies is important both regionally and globally" (p. 31).

In general, mutual recognition has been implemented at the program level and within countries. The Washington Accord was the first successful international case though its scope is highly limited. In 1989, the Washington Accord, an international engineering agreement, "governed mutual recognition of engineering qualifications and professional competence" (International Engineering Alliance 2011). All signatories not only recognized the programs accredited by each other but also recommended that graduates of the programs accredited be recognized as "having met the academic requirement for entry to the practice of engineering".

However, there exists a number of obstacles for the achievement of mutual recognition, including different quality assurance approaches, the level of quality assurance culture, use of language, time and money spent, and human resources allocated to achieving the bilateral or multilateral agreements. Therefore, the major global and regional quality assurance networks started to engage in the issue by focusing on "mutual recognition" as an ultimate goal (Woodhouse 2008; Chueng 2008; Hou 2012b).

18.4.2 ECA Experience

Established in 2003, the European Consortium for Accreditation in **Higher Education (ECA)** is the first accrediting agency in Europe aiming to achieve mutual recognition of accreditation decisions among its member countries. Its objectives include "facilitating international acceptance of academic institutions, degrees and studies" in the European higher education Area (Frederiks and Heusser 2005, p. 5). Against varying backgrounds of 15 accreditation organizations from 10 European countries, including Austria, Belgium [Flanders], Switzerland, Germany, Spain, France, Eire, Netherlands, Norway and Poland, the ECA implemented mutual recognition of accreditation decisions among member countries by the end of 2007 (ECA 2008). In 2006, six representatives of ENIC/NARICs in the ECA countries

signed an agreement which would "promote an almost 'automatic' recognition of qualifications based on mutual recognition of accreditation decision" (Frederiks 2008, p. 13). The signing of this agreement is based on the premise that mutual recognition of review decisions linking mutual recognition of degrees will eventually facilitate student mobility in European higher education area.

In order to remove existing barriers in the process and to achieve the goal by the specific deadline, ECA proposed a four-step roadmap to realize mutual recognition, including the mutual understanding of accreditation organizations, mutual recognition of accreditation procedures, and mutual recognition of accreditation decisions and results (Heusser 2006). Given the fact that mutual understanding among quality assurance agencies is a prerequisite for mutual trust, in the initial stage in 2004, ECA assisted to collect accreditation systems of the members and to compare them through a regional survey. Besides, all members were encouraged to develop a variety of mutual cooperation projects, including exchange of experts and staff, mutual observations of each other's accreditation procedures, and joint accreditation. In addition, ECA drafted some guidelines, including the "Code of good practice" and "Common Principles for the Selection of Experts" to define the internal quality assurance measures of accreditation organizations and ensure the quality of the review decisions. Then it signed the "Code of good practice" that "guarantees comparability of accreditation procedures and defines the internal quality assurance measures of accreditation organization" for the self-review of quality assurance agencies (ECA 2008, p. 4). But ECA indicated that the difference of quality assurance systems at a national level was tolerated and respected, "as long as they would not fundamentally influence the final accreditation decisions" (ECA 2008, p. 5). When all members obeyed the guidelines and good practices, the confidence each quality assurance system had in regards to the quality of each other's accreditation systems was strengthened. As Heusser (2006) emphasized, "The strong commitment of its members and good starting conditions allowed the ECA project to make quick progress and to stick to the ambitious schedule of its road map. One of the first steps in the project was to establish 'accreditation profiles' of all ECA members" (p. 3).

Fifteen ECA members started to observe each other's program accreditation procedures and process in 2006. In the following year, all members undertook external review in order to assess whether their accreditation procedures and processes comply with the standards of the Code of good practice. The completion of the mutual recognition process occurred ultimately after the outcomes had been approved by the government or a recognition authority in 2007 (Fig. 18.2).

Driven by the Bologna process, European countries are fully supported along with endorsement of their Ministers of Education, by ENQR, ECA, ENIC/NARICs networks to build up mutual trust, mutual recognition of the accreditation process as well as mutual recognition of qualification. It can be seen that the completion of mutual recognition rested on not only the ECA members' participation but also on the engagement of a large range of stakeholders, particularly governments and higher education institutions (Heusser 2006; Aelterman 2008; Frederiks 2008).

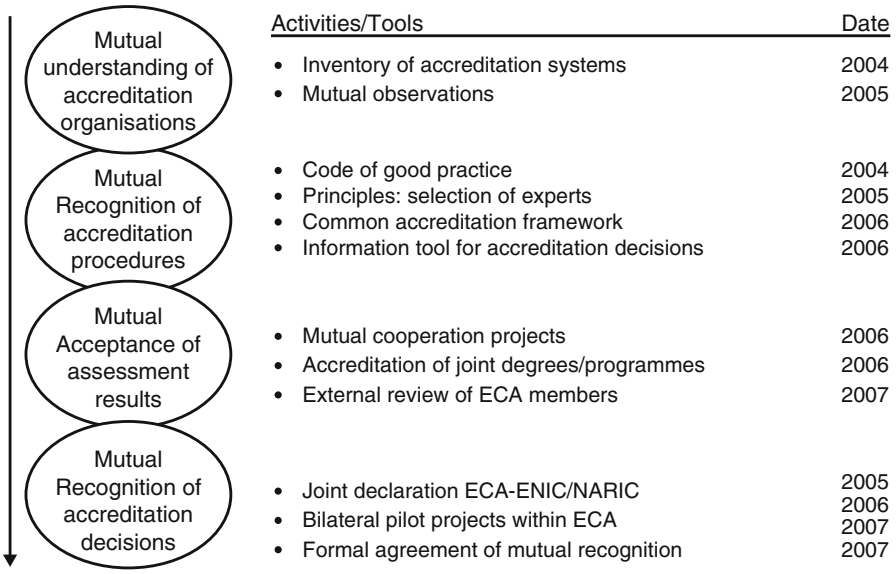

Fig. 18.2 ECA road map to mutual recognition (Source: European Consortium for Accreditation in Higher Education 2007)

18.4.3 Mutual Recognition in Asia-APQN's GIQAC

Encouraged by the ECA case, APQN members started to think of implementing the concept of "mutual recognition" in order to ensure the quality of cross-border higher education institutions in Asia. Peter Cheung, a former President of APQN, officially declared that "By 2010 the APQN would like to see that all its full members will recognize each other's judgments, and all operators of higher education will be subject to the requirements of only one agency – in other words, there will be no quality barrier to the full mobility of students across the region" (2008, p. 37). In 2004, led by Dorte Kristoffersen, a former Vice President of APQN, APQN conducted a research project to realize the possibilities and challenges for mutual recognition implementation for over all APQN members. It was found that there were currently a number of obstacles to achieving mutual recognition among APQN members, such as the support and acceptance from the varying stakeholders, language, and expenses (Kristoffersen 2004). After initial discussions, in 2005, the project group developed a discussion paper. Discussions continued for the next couple of years but the project did not proceed due to lack of funding (Kristoffersen 2004; APQN 2010b). APQN still continued to work on the preparatory stage of mutual recognition by working groups, annual conferences and drafting the Chiba principles as a basis for mutual recognition.

In 2010, additional GIQAC funds provided to APQN made it possible to initiate more discussions on mutual recognition among selected APQN members – Australian

Universities Quality Agency (AUQA), MQA, Indian National Assessment and Accreditation Council (NAAC), and NZUAAU. The project group held its first meeting at MQA on 21 October, 2010. Two other members of APQN – Australian National ELT Accreditation Scheme (NEAS) and the HKCAAVQ – contributed reflections on the context and challenges of mutual recognition among the selected project group members (APQN 2010b).

By learning from the ECA experience that building mutual understanding is the first step to mutual recognition, the four project members mapped out the policies, practices and outcomes of their quality assurance processes and discussed the guidelines for the observations of each other's quality assurance exercises. The four members compared and analyzed each other in a very comprehensive manner and finally came up with an initial evaluation framework (APQN 2010b).

APQN has engaged in the second phase of the project where each project member agency's QA exercise is to be observed by the other member of the project team. After all the observation visits had been conducted, a final meeting would be held to finalize the report and to prepare for the next stages (APQN 2010b, 2012). However, in Nov, 2011, TEQSA (the new organization of AUQA) had announced that all audits in 2012 were stopped to process due to the transformation of AUQA. A termination of GIQAC's funding in 2012 was also a factor which affected the continuity of the project.

Driven by the global trend in mutual recognition, many Asian nations suddenly realized the importance of mutual recognition in terms of cross-border qualification recognition and proactively supported mutual recognition. Under the circumstances, there are high expectation of Asian quality assurance agencies to establish a working group to implement the mutual recognition of each other's accreditation decisions, such as MQA and HEEACT (HEEACT 2012). With strong governmental support, some critical barriers, in MQA–HEEACT's successful case, were eliminated in the initial phrase. In the process of mutual recognition, the key questions that are raised are for more mutual understanding, such as the compatibility of objectives, policies and procedures, quality of experts, and building trust in each other's decisions, creating awareness of the benefits of mutual recognition in their countries, and so on. All in all, quality assurance agencies need to agree on sharing more quality assurance supporting documents from each other in order to bridge the gap between the various national quality assurance mechanisms.

18.5 Conclusion: Future for Development of Quality Assurance System in Asia

The massification of higher education has not only greatly sped up the development of quality assurance in Asia, but also made it serve as specific functions for the government and higher education institutions. The Asian context shows that an established "glonacal" quality assurance system has led to the internal transformation of national higher education systems as well as strengthening the global

competitiveness of universities in the massifed higher education era. Although Asian quality assurance agencies are diverse in varying aspects, they all face similar challenges in terms of issues on internationalization, autonomy and accountability. Hence, several relevant issues were widely discussed among Asian QA agencies at the 2014 APQN annual conference, such as if whether national and local accreditors were unable to cater local institutions' need, which would lead universities to pursue international accreditation; if national accreditors have sufficient autonomy to undertake evaluation activities without being influenced by a public national government authority; if local and international accreditation were too market driven, which might distort missions of universities, or if accreditors have successfully assisted universities to develop quality education, etc.

There still is a need in great extent for close cooperation of quality assurance agencies and acceptance of review decisions called "Mutual recognition" which has been promoted by APQN since 2004. Though the goal has not been reached yet, the end result would be worth the investment on behalf various actors involved, including students, institutions, agencies and governments. The faster student mobility expands among Asian nations and other regions, the more important mutual recognition will be in terms of quality of cross-border higher education.

It now has been accepted that quality assurance has to become a "must" item on national policy agenda for higher education since Asian governments would like to improve quality in academic programs and institutions and to protect students from low quality or fraudulent providers (Matrin and Stella 2007). As Neubauer (2011) stated clearly about the function of QA "As quality assurance agencies, our ultimate justification is working with all higher education sectors to ensure that teaching, research, and services are of high quality, that institutions are engaged in continuous quality improvement, and that students are the ultimate beneficiaries of our efforts."

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Chapter 19
Faculty Participation in University Decision Making and Management in Japan

Akiko Morozumi

19.1 Introduction

In Japan, there has been a growing interest in the issue of university governance. Financial circles have been critical, arguing that the nature of faculty participation in university operations—such as the selection of university presidents by faculty members and the faculty council's (*kyoju-kai*) autonomy—has hindered university-level reforms (e.g., Japan Association of Corporate Executives 2012). The strength of the faculty council's autonomy in Japan may be similar to "the academic oligarchy" that Clark (1983) describes. In fact, according to a comparative survey of "The Changing Academic Profession (CAP)", the Japanese faculty council is the most distinctive among 19 counties (Teichler et al. 2013). Japanese academics believe that the power of faculty committees/boards is much stronger than other stakeholders in the selecting of key administrators, choosing new faculty, making faculty promotions and tenure decisions, determining budget priorities, determining the overall teaching load of faculty, setting admission standards for undergraduate students, approving new academic programmes, and evaluating teaching.

From a policy perspective, there is also a strong call for university reforms through stronger governance measures, such as the establishment of a strong leader as president so that universities deliver high quality college education that meets the needs of students and society. The Council for the Revitalization of Education proposes radical governance reforms, including the reform of laws such as the Japanese Education Act and a revision of internal school regulations. Evaluation of these proposals began in late June, 2013 in the Organization Operations Subcommittee, a part of the Central Education Council's Subdivision

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on Universities, the advisory committee of the Ministry of Education, Culture, Sports, Science and Technology (MEXT).

University operations are influenced not only by laws and internal university regulations but also by the university's organizational customs, culture, and values of its constituent members. Given that model, we must ask whether revising the laws and forcing changes in the governance structure of universities would truly encourage university reforms. Although faculty groups tend to be treated as a "counterforce" in such a debate, they are the ones that strive to elevate the quality of university research and education. It has been argued that it is important to involve such groups in education reforms and allow them to participate in the appropriate manner. What are faculty members' thoughts, what are they hoping to accomplish, and why? We must evaluate governance reform on the basis of our understanding of these questions. This paper analyzes surveys to evaluate the issue of how faculty members perceive the current and future states of university operations from the perspective of their participation in decision making in an effort to outline the implications for governance reform.

19.2 Previous Research and Issues for Analysis

19.2.1 Evaluation of Previous Research

In many Western countries, reforms to transform the style of governance from the collegiate and bureaucratic to the corporate and enterprise model are progressing (McNay 1995; Ehara 2010). That trend is particularly strong in relation to national and publicly funded universities. In light of the movement toward commercialization, it appears to be a global trend to argue that universities should become independent of government financing and regulations, and that authorities leading universities should be more autonomous. The tensions between academics beliefs and contemporary drivers is growing issues in many countries (Locke et al. 2011). However, in a comparison between 1970 and 2001 in the United States Kaplan (2004) focused on changes in shared governance and demonstrated that an expansion of faculty member participation accompanied the strengthening of administrative departments. As this outcome demonstrates, it is not necessarily the case that university reforms simply restrict faculty member participation in operations. In fact, Kaplan's study indicates a need for discussion of the optimal manner in which faculty participation in operations should change. Faculty member participation offers positive aspects for reforms such as the faculty's ability to recognize issues the university encounters as well as negative aspects that hinder university-level reforms. It is important to define and achieve the desired balance between these two aspects of university governance.

From this perspective, one can consider the type of research that has been conducted in Japan. Regarding university governance, we will evaluate prior research with a focus on surveys of the central actors in university operations based on the perspective that the influence of customs is stronger than legal aspects. Many of the surveys regarding university operations conducted to date have targeted administrators such as university presidents, trustees, and deans. There is insufficient space in this paper to outline all those surveys, but one survey, asking private university managers about issues in operations (Private Higher Education Research Center 2013), indicates that 95 % of respondents feel that "faculty awareness" is an issue in university reform. The data also reveal that respondents feel that the issue of "faculty awareness" hinders university reform more than the "operational competence of management" (84 %) or "authority of university president and insufficiency of assisting structures" (61 %). Additionally, a survey by the Hiroshima University Research Institute for Higher Education (2007) found that all presidents of national universities indicated a need to strengthen the authority of "university presidents and vice presidents," and in "organizations such as the board of directors and operational cooperatives." Clearly, university presidents strongly desire increased authority for university administrators.

Since Hiroshima University Research Institute for Higher Education Project on Organization and Operations (1976) conducted 40 years ago by the Hiroshima University Research Institute for Higher Education, there has been no significant research on faculty awareness of university operations, the focus of this paper. The reason may be that university operations have long been conducted in a stable manner, thus making such research unnecessary. In recent years, however, analysis of faculty awareness of university management and operations has been conducted as an element of research on university professorship. The research indicates that after the incorporation of universities, the amount of time faculty members commit to management and operations has increased, while their authority and discretion has decreased (Fujimura 2010). Additionally, the trend of faculty resignations has increased as faculty's sense of allegiance to universities has decreased, commensurate with the strength of top–down management and operations (Fujimura 2011). Such research empirically demonstrates that the nature of university governance influences faculty awareness, and the findings are important for the present study. However, to date, no research has been conducted from the perspective of how faculty members autonomously participate in decision-making and operations.

Additionally, opinions and thoughts regarding university operations have also been shown to vary widely, dependent upon the respondents' position (e.g., Hiroshima University Research Institute for Higher Education 2007). Although such findings are significant, there has been insufficient research explaining the reason for that difference or for the internal correlation among opinions. It is not adequate to simply indicate that opinions vary. The issue at hand involves how to encourage university-level participation in the process of university reforms, regardless of rank, position, or opinion.

19.2.2 Issues for Analysis

Given the foregoing discussion, this paper seeks to clarify the following issues.

– Issue (1): How do faculty members currently participate in university decision-making and how do they evaluate that participation?
– Issue (2): How do faculty members feel about their participation in future decision-making and what influences the differences in their opinions?

Although one can assume that opinions on university decision-making and operations among faculty members are influenced by factors such as the faculty member's position, experience, and type of institution, rather than placing substantial emphasis on those factors, this study focuses on clarifying the relationship between perceptions of faculty participation and differences in opinions.

19.2.3 Data

This analysis uses data from the "Questionnaire on Decision Making and Administration in Universities for Academic Staff," conducted in February 2013 by the University of Tokyo's Center for Research on University Management and Policy. The Center sent a two-to-six part survey to approximately half the undergraduate universities in Japan and requested that they be distributed among faculty members. Of the sample population of 4,000 faculty members, 1,638 responded (41 %). This paper analyzes the 1,616 respondents all faculty members, whose occupation levels were known and who held positions higher than lecturers. Table 19.1 reports respondent attributes. Compared to data from the MEXT 2010 School Faculty Statistics Survey (calculated by extrapolating lecturers, assistant professors, and professors from full-time faculty at undergraduate and graduate

Table 19.1 Respondent attributes

Data Analyzed in Current Survey (in 2013)			
Establishment	Occupation	Sex	Age
National (22.6 %)	Professor (72.0 %)	Male (80.3 %)	39 and below (7.7 %)
Public (7.8 %)	Assoc. Professor (22.6 %)	Female (19.7 %)	40–49 (25.5 %)
Private (69.6 %)	Lecturer (5.4 %)		50–59 (40.1 %)
			60 above (26.8 %)
Survey Distributed to All Universities (in 2010)			
Establishment	Occupation	Sex	Age
National (31.1 %)	Professor (55.0 %)	Male (82.1 %)	39 and below (12.1 %)
Public (7.8 %)	Assoc. Professor (31.4 %)	Female (17.9 %)	40–49 (29.6 %)
Private (61.1 %)	Lecturer (13.6 %)		50–59 (32.6 %)
			60 above (25.7 %)

universities) as shown in the lower portion of Table 19.1, the data exhibit some skewing. Fewer national universities and more private universities participated in the 2013 survey. More professors and fewer assistant professors and lecturers participated in the 2013 survey, with more respondents in their 50s and fewer in their 40s or 39 and younger.

19.3 Current Faculty Participation in Decision Making

19.3.1 Attitude Toward and Evaluation of Faculty Councils

We will examine current faculty member participation in decision-making by separately examining departmental faculty councils and university-level meetings. The number of faculty councils held each year averages 14.1, and the amount of time devoted to each meeting averages 2.1 h. Thus, the average amount of time occupied by faculty councils each year is roughly 30 h. The categorization of universities by type of establishment shows that public universities devote most time to faculty councils, whereas private universities devote the least. The schools with low-range standard deviation scores devote less time to faculty councils whereas those with a high standard deviation score devote more time. The amount of time spent in faculty councils also varies by organizational characteristics. For example, departments with less than 19 or more than 100 faculty members tend to devote less time to faculty councils. Additionally, Humanities and Sociology departments tend to spend more time in faculty councils, whereas departments of Engineering and Agriculture spend less time.

Nearly all faculty members attend the meetings and are generally satisfied with them, responding “My opinions are reflected in the faculty council’s decision making” (63 %) and “The faculty council is a place where discussion is sufficiently conducted” (57 %). However, many respondents were critical of faculty councils., For example: “Many discussions could be delegated to other committees” (67 %), “Speakers are skewed and the discussion is biased” (48 %), “Demand and pressure from administration restricts autonomous decision making” (35 %), and “There are instances in which the decisions made are not implemented” (22 %). Analysis found multiple correlations between the types of opinions and amount of time spent in faculty councils. Faculty members in academic departments with longer meeting times perceive the faculty council as a place for sufficient discussion through which his or her opinion is reflected in the decision; however, those faculty members in this group are also dissatisfied because the same speakers tend to dominate the floor during the meetings and discussions tend to be biased as well. The results also suggest that the faculty members with shorter faculty councils tend to feel that autonomous decision-making is restricted under pressure from administrators, such as university presidents and others, who attend meetings to explain important matters directly to faculty. Additionally, the results reconfirm that the conditions of faculty councils vary by university and department.

19.3.2 Decision-Making at the University Level

When asked about the levels of participation in the decision-making process by types of decision (Fig. 19.1), 80–90 % of faculty members answered that they can participate in curriculum design, course allotments, and faculty hiring and promotion decisions. However, slightly less than 60 % of respondents answered that they participate in post-field distribution and shared university-level education, 45 % reported that they participate in the university's future planning, and 34 % reported participating in the appropriation of their respective university budgets within the school. Thus, faculty members contribute strongly to education content and human resources, but the level of their contribution is low in decision making for university-level policies and coordination.

At this point, one may ask how much interest faculty members have in topics regarding university-level discussions Among faculty members, 64 % reported having a strong interest in education and 79 % reported having a strong interest in research. Nearly all faculty members have obtained information in those areas. However, the number of respondents showing interest in strategic planning, finance, and human resources is certainly not as high, comprising 30–50 % of the respondents. As a result, 20–40 % of the respondents have obtained no information on those areas of discussion. Because one is unlikely to exert effort to obtain information if he or she has no interest, the presence or absence of interest is more important. The survey also asked methods for obtaining information at the university

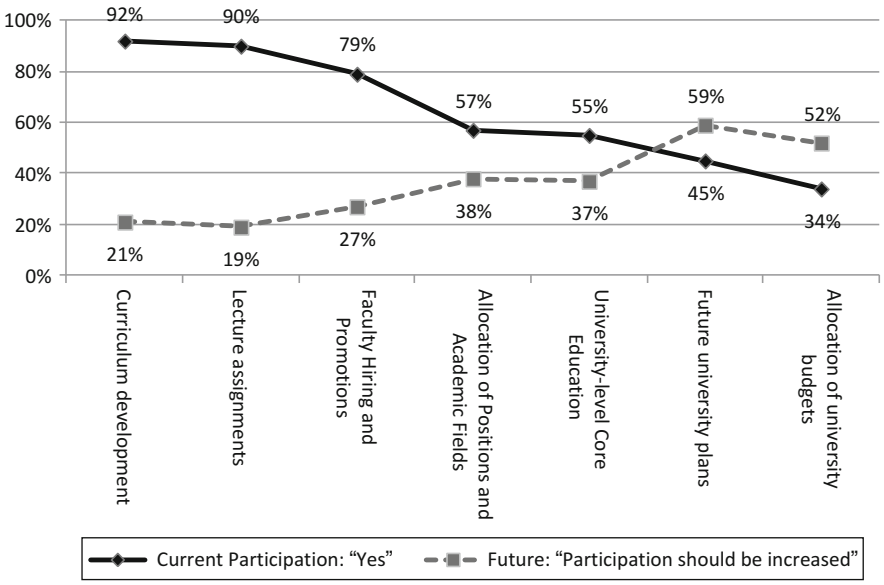

Fig. 19.1 Faculty members' current and future participation in decision making

level, dividing responses into four categories: faculty councils, university homepage and internal information releases, conversations with colleagues, and direct attendance in university-level meetings. The results reveal that the level of information faculty members obtain is commensurate with the degree to which they use these methods, and those faculty members unable to obtain information, in turn, had used none of the methods.

Why it is that faculty members have little interest in issues regarding university-level operations? Multiple regression analysis (Table 19.2) indicates that, regarding faculty members' level of experience in management positions, having experience as a faculty manager (e.g., dean, vice president) raises an individual's level of interest in university-level problems. The results also indicate that having experience as the head of a university-level committee or in a managerial position within a department (such as assistant department director) does not significantly contribute to an increase in interest toward university-level issues. Additionally, faculty members express an interest in university-level issues commensurate with their desire to improve the university in which they work. Those faculty members at institutions with a low-range standard deviation value showed a high degree of interest in university selectivity. The results also indicate that interest in university-level problems is higher among those faculty members concerned with immediate issues within their own departments, such as curriculum and internationalization, as well as budget reductions. The survey introduced only two variables to describe the relationship between interest in university-level issues and faculty council operations. Interest in university-level issues increases somewhat among those faculty members who feel "sufficient discussion occurs at faculty councils." In addition, increased interest in university-level operational issues is confirmed in those instances where "university presidents and others come to meetings to explain import matters directly to faculty."

19.4 Future State of Faculty Participation in Decision-Making and Its Determinants

19.4.1 Future State of Faculty Participation in Decision-Making

The foregoing discussion demonstrates the following tendencies with regard to the current state of faculty participation in decision-making: faculty council operations differ by university regarding university-level decision-making, the level of participation is not very high; and interest in items concerning university-level operations is not very high. What thoughts and perspectives, then, do the respondents have about the future? A small percentage of faculty members responded that they intend to decrease their participation in the future (Fig. 19.1). Those not agreeing to the statement "I would like to increase my participation" are interpreted here to mean that

Table 19.2 Determining factors in interest toward items concerning university-level operations (multiple regression analysis)

			Beta	Level of significance
	(Constant)			***
Individual characteristics	Exp. In Mgmt Position	University-level Manager (Vice President, Dean, etc.)	0.249	***
		Department managerial position w/committee chair	0.066	
		Other committee member	0.047	
		No managerial experience		
	Desire to improve university with which one is employed		0.189	***
Organizational characteristics	Selectivity	Low-ranking (40–49)		
		Middle-ranking (50–59)	−0.095	***
		High-ranking (60+)	−0.084	**
	University problems	Student problems	0.028	
		Program problems	0.059	**
		Problems with reduction of budget pillar	0.086	***
	Faculty council evaluation	Sufficient discussion occurs	0.048	*
		Presidents. come to meetings to explain import matters directly to faculty	0.102	***
	F-value		22.242	***
	Adjusted R-square		0.135	

Note: Interest in discussion at the university level (Strategy and Planning + Finances and Facilities + Personnel and Human Resources) comprises the independent variable. For the purposes of evaluating faculty councils based on the respondent's interest in improving the university at which he or she is employed, options available for response were: (1) "I don't feel that way"; (2) "I don't strongly feel that way"; (3) "I feel that way somewhat"; and (4) "I feel that way." The "University Problems (Student Problems, Program Problems and Problems with reduction of budget pillar)" variable uses a factor score[(1)]

*** indicates the 1 % level of significance, ** indicates 5 %, and * indicates 10 %

Table 19.3 Future ideal state of departmental faculty councils and faculty participation in future planning (% of total)

		Participation in university future planning		
		No need to increase	Should be increased	Total
Authority of departmental faculty council	Should be constrained	7 % (Decrease participation)	9 % (Change way in which participation occurs)	16 %
	Should not be constrained	33 % (Preserve status-quo)	50 % (Increase participation)	84 %
Total		41 %	59 %	100 %

the current level of participation is satisfactory. In those areas in which participation among faculty members is already high, such as curriculum design, preservation of the status quo is desired. Many faculty members agree that "I would like to increase my participation," in those areas where faculty member participation has been low to date. Of the total respondents, 59 % indicated that they intend to increase their participation in their university's future planning, in particular.

In contrast, 84 % of respondents expressed the opinion that the authority of departmental faculty councils "should not be constricted." Table 19.3 reports the results of a cross-correlation analysis of the opinion that the authority of departmental faculty councils should be constrained on the one hand, with the desire to increase participation in university future planning on the other. The results of a chi-square test show no statistical significance, and so these two opinions can be interpreted as independent of each other. The greatest number of respondents expressing the opinion that their participation in their university's future planning should be increased without decreasing the authority of departmental faculty councils is 50 %. Prior research shows that faculty members are becoming increasingly busy, raising questions of why individual faculty members would hope for a direction in which they are likely to become even busier.

19.4.2 Future-State Determining Factors

Next, we evaluate the factors influencing the future state of faculty member participation in decision-making, using logistic regression analysis (Table 19.4). Two dependent variables are used here: (1) whether faculty council authority should be constrained and (2) whether faculty member contributions to future planning should be increased. The independent variables incorporated here include organizational characteristics (establishment type, university problems), the individual characteristics of respondents (managerial experience, work experience in other organizations, importance placed on one's work), and evaluation of current university operation (evaluation of faculty councils and administration).

Table 19.4 Determining factors of opinions of the future (logistic regression analysis)

Dependent variable		Authority of faculty council should be constrained			Participation in future planning should be increased		
		Partial regression coefficient	Odds ratio		Partial regression coefficient	Odds ratio	
Establishment type	National	0.203	1.226		–0.402	0.669	**
	Public	0.298	1.348		–0.505	0.603	**
	Private		1.042				
University problems	Student problems	0.041	1.042		0.11	1.116	*
	Program problems	0.118	1.125		0.144	1.155	**
	Budget pillar reduction	–0.142	0.868	*	0.24	1.271	***
Managerial experience	University-level manager (vice president, dean, etc.)	0.784	2.191	***	0.059	1.061	
	Department managerial position w/committee chair	0.21	1.234		–0.158	0.854	
	Other committee members	0.159	1.173		–0.045	0.956	
	No managerial experience						
Employment experience	Experience in a governmental agency or private enterprise	0.409	1.506	***	–0.047	0.954	
Level of importance on work	Strengthening academic achievement	–0.184	0.832		0.114	1.121	
	Investing energy in academics instruction of students by preparing good lectures	–0.225	0.799		0.211	1.235	*
	Contributing to the resolution of social demands and issues	0.2	1.222	*	0.197	1.217	**
Evaluation of faculty council	Sufficient discussion occurs	–0.28	0.756	***	–0.097	0.908	
	My opinion is reflected in faculty meeting decisions	–0.201	1.223	*	–0.101	1.107	
	There is leeway to delegate discussion to committees	0.242	1.274	***	0.052	1.053	
	Autonomous decision making limited by pressure from administrators	–0.077	0.926		0.2	1.221	***

Evaluation of administrators Note:	Demonstration of a vision	0.16	1.174		−0.721	0.486	***
	Ability to take action	−0.125	0.883		0.223	1.25	
	Coordination between schools	0.13	1.138		−0.083	0.921	
	Attentiveness to constituent opinions	0.18	1.197		−0.41	0.664	***
	Good representative of university	0.078	1.081		−0.155	0.857	
	Understanding their university	−0.064	0.938		−0.162	0.85	
	Constant	−2.292	0.101	**	0.634	1.886	
	Cox & Snell R-squared value		0.04			0.147	
	Nagelkerke R-quared value		0.068			0.198	
	Suitability model		P=0.000			P=0.000	
	N		1,509			1,505	

Note: Respondents were asked to evaluate the level of importance one puts on his or her work on the basis of four options: (1) No importance, (2) Little importance, (3) Some importance, and (4) Great importance. There were three options for evaluation of university administrators: (1) Low, (2), Average, and (3) High
*** indicates the 1 % level of significance, ** indicates 5 %, and * indicates 10 %

Analysis confirms that the following factors influence the respondents' support for faculty council authority: university problems, managerial experience, work experience in other organizations, level of importance placed on one's work, and evaluation of faculty councils. Specifically, respondents tend to support the constraint of faculty council authority in instances where there is no problem with reductions in budget or research funding. Respondents with experience in university-level management or department director positions are strongly supportive of constraining faculty council authority. Respondents with work experience in governmental organizations or the private sector are also supportive of constraining the faculty council authority. Although specific results are not displayed here, the number of universities in which respondents has worked, work experience at foreign universities, and experience at research institutions do not influence the respondents' perception of the state of faculty councils. With regard to the category of the importance of one's work, faculty members with a strong desire to contribute to society through their work are more likely to support constraining faculty council authority. Additionally, the results reveal that faculty members tend to more strongly support constraining faculty council authority commensurate with their feeling that there are problems in the current administration of faculty councils, responding affirmatively to statements such as "There is not sufficient discussion," "My opinion is not reflected in decisions made at the faculty councils," and "There is leeway to delegate discussions to other committees." Evaluation of university administrators does not influence the respondent's desired future state of faculty councils.

The results also illustrate the influence of establishment type, university problems, the degree of importance placed on one's work, evaluation of faculty councils, and evaluation of university administrators on faculty participation in the university's future planning. A strong correlation exists between the respondent's participation and his or her evaluation of current administrators. Let us examine these in the order in which they have been presented. Analysis by establishment type shows that faculty members at private universities exhibit more interest in participating in their university's future planning. In the area of university problems, presence of each of the problems concerning student, program, and reductions in budget or research funding contributes to faculty members' increased interest in participation. The trend toward greater interest in participation is particularly noticeable when faculty members face problems with budget reductions. Regarding the importance placed on his or her work, results suggest that faculty members desire greater participation in university future planning to the extent that they emphasize education and contributions to society. Faculty members who feel that "Demand and pressure from administration restricts autonomous decision making in faculty council administration" are more likely to desire a different type of participation in future planning. Results also demonstrate a strong tendency for faculty members to desire greater participation when their evaluation of current administrators is low in the following two aspects: the degrees to which administrators can "demonstrate a vision" and "consider the opinions of faculty and staff members."

19.4.3 Faculty Participation in Decision-Making and Future of University Administration

The previous discussion describes the state of faculty members' individual participation in university decision-making. It is important to expand the scope of discussion to include the future direction of university administration in relation to such differences in opinion among faculty members. Figure 19.2 outlines desirable future directions in university administration, using the four categories described in Table 19.3.

With regard to selection of the president, many respondents are opposed to constricting the faculty council's authority, responding affirmatively to "preserve the status-quo" and "increase participation." They support the conventional methods such as "selection of president by university professors" and "election of president by teaching staff." Considering the results aggregated in Table 19.4, we can hypothesize that the vague sense of unease currently held by faculty members about losing their own authority may influence these opinions. A separate study should further examine the subject of opinions on the selection of university presidents.

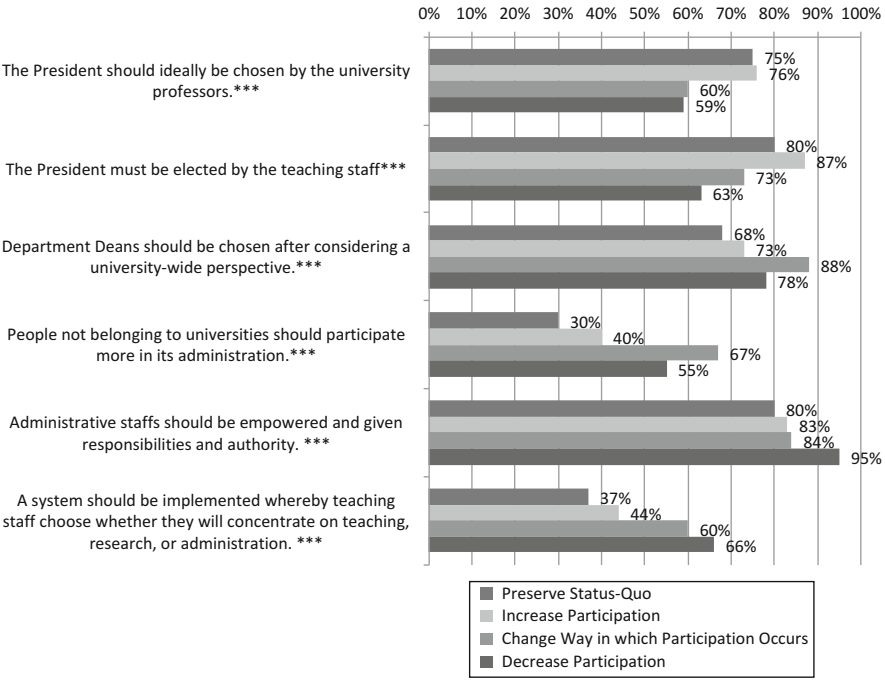

Fig. 19.2 Categories of faculty member participation and future of university administration

"Selection of department deans from a university-wide perspective" is most widely supported by faculty members who express a desire to constrict the authority of faculty council and increase their participation in the future planning by a "change in the way participation occurs." In contrast, respondents who express a desire to preserve the status-quo in participation are least supportive of a change in the manner in which presidents are selected. The results confirm a similar trend in the respondents' opinions and attitude toward administration by "People from outside of universities."

Those respondents who chose to "Preserve the status-quo" are also least supportive of statements such as "Administrative staff should be empowered and given responsibilities and authority" and "A system should be implemented whereby academic administrators choose whether to advance their careers to a president or board member." Support for these statements was more prevalent among the categories of respondents hoping for "Increased participation," "Change in the way participation occurs," and "Decreased participation," in that order. Those faculty members who support reduction of the authority of faculty councils and maintenance of the current state of participation in their university's future planning hold a strong belief that the future of university administration should be left to professionals.

These results detail a strong correlation between faculty members' opinions on how they should participate in decision-making and administration, their opinions on the selection methods of presidents and departmental deans, and their perception of administration by people outside the university, or by clerical staff.

19.5 Conclusion

Let us summarize the findings from the analysis. Regarding the participation of faculty members, nearly all faculty members attend faculty councils. Although many faculty members feel that these committees function as a place in which sufficient discussion occurs, a number of others express the feeling that some of the discussions can be delegated to others, and that the independent decision-making of the faculty is restricted by demands and pressure from university administrators. Furthermore, on the subject of university-level discussions, general teaching staff express only a moderate degree of interest in administrative issues outside education and research, and staff members do not obtain much information on those issues.

When asked about the future, however, 60 % of respondents indicate their desire for more participation in discussion of issues such as university's future planning. No more than 16 % support the idea of decreasing the authority of faculty councils whereas many respondents desire even greater participation. Analysis of the determinant factors behind these opinions indicates that great influence comes from dissatisfaction with current university administration as well as the nature of problems facing the respondents (i.e., reductions in budget or faculty). Those expressing dissatisfaction with the internal operations of faculty councils tend to agree with the constraint of faculty councils, whereas dissatisfaction with university administration is a significant determinant of a faculty member's desire to expand his or her

own authority. Faculty's dissatisfaction with current university administration's ability to present a clear vision as well as attentiveness to faculty members' voices and opinions is a particular driver of the ideas that the administration "cannot be entrusted with authority" and that "faculty members need to participate more to take matters into their hands."

What sorts of implications can be drawn from these findings about current governance reform theory? It is unreasonable to ascribe all problems in management to the system of governance; we must therefore contemplate an integrated form of university reform. Governance reform through legal provisions, such as the constraint of faculty council authority, may inevitably move strong administrative power and authority to the university president or administration. However, many faculty members are dissatisfied with the vision presented by the university administration and the administrators' degree of attentiveness to the opinions of constituent members. This dissatisfaction leads to an increased desire for participation. There is no guarantee that more authority and administrative power vested in university administrators encourages university-level promotion of reform. In fact, a stronger university administrator has the potential to cause more conflicts within a university. Even though opinions naturally differ depending on an individual's position within his or her university, it may be important to determine how to create an effective system of coordination to facilitate the implementation of university-level reform. This is a management issue. Prior research demonstrates the more that future plans and issues are shared among constituents in an organization, the more successful is the implementation of such plans (Morozumi 2011).

A bias exists in the way current observers understand the leadership of university presidents and other university leaders. Oba (2011) explains the need for multi-directional leadership that promotes both participation and consensus building. "Academic leadership" refers to a leadership style that is similar to the multi-directional style in the United States (Birnbaum 1992). Reform in internal rules and legal provisions alone cannot result in such leadership. We must then ask what faculty members do seek from university administration. In the order of most to least desired, those attributes are "Understanding of the status of the university" (70 %), "Demonstrate a vision" (62 %), "Consider the opinions of faculty and staff members" (62 %), "Implement their role as a representative of the university" (51 %), "Coordinate between schools" (50 %), and "Strong execution" (49 %). What faculty most desire, then, is a leader who expresses a vision, listens to opinions, and demonstrates strong execution. We must examine how to cultivate academic leaders and managerial personnel with these exceptional abilities. Although specialization of staff roles is being called for, in contrast with the United States, it seems that work specialization is delayed in managerial personnel with an academic background.

Many remaining issues require further research. For example, we should carefully consider issues such as the influence of the current state of governance, type of establishment, and methods by which university leaders are selected. It is also critical that we further examine factors that increase interest among faculty members in university-level issues and motivate them to improve the university in which they work.

Notes

1. Results of factor analysis of issues faced by respondents in their academic departments.

	Factor 1	Factor 2	Factor 3
	Student problems	Program problems	Budget/finance reductions
Student recruitment	**0.829**	0.083	0.068
Student absence or withdrawal	**0.803**	0.073	0.065
Student employment	**0.739**	0.159	0.013
Curriculum revision	0.167	**0.770**	–0.078
Standardization of educational content	0.143	**0.773**	0.007
Responding to globalization	–0.248	**0.520**	0.224
Faculty restructuring and reorganization	0.227	**0.483**	0.280
Reductions in number of lessons	0.164	**0.456**	0.382
Reductions in teaching positions	0.058	0.076	**0.866**
Reductions in research funding and administrative budgets	0.009	0.088	**0.861**

2. Although it may be obvious, opinions regarding the future state of university president selection methods differ depending on the current method of selection. Among faculty members at universities where university presidents are selected by faculty, 91 % responded affirmatively to election of president by faculty. In contrast, 68 % of those at universities where elections are not held responded affirmatively to the same question.

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Chapter 20
The Effects of the Massification of Higher Education on Teacher Education in Taiwan: A Case Study of the Transformation of Public Universities in Peripheral Regions

Chung-Ming Liang and Chen Chuang

20.1 Introduction

In Taiwan, the massification of higher education can generally be attributed to two factors: political changes and higher-education policy changes. Since the 1980s, the international rise of neoliberalism has prompted neoliberal parties in Taiwan to urge the government to promote economic liberalization, internationalization, democratization, and pluralism. Consequently, opposition parties and labor, peasant, and student movements as well as other social movements have emerged along with various consumer protection and environmental protection concerns. On July 15, 1987, the end of martial law, which had been in effect since May 20, 1949, prompted Taiwanese citizens to adopt social democracy and liberalization. After martial law was lifted, the government could not suppress the demand for educational reform. Consequently, educational reform became an essential component of the transition from an authoritarian regime to a democratic government. By the mid-1990s, the Executive Yuan Educational Reform Review Committee created the slogan "education deregulation" to signify the return of education to the free market price mechanism in accordance with the supply and demand of the education market. This concept of education deregulation was applied to determine the trend in education. The lifting of martial law and deregulation of higher education prompted a series of changes in the educational system, and higher education began to expand rapidly.

According to Trow, a population in which the percentage of people aged 18–22 years entering higher education is 15–50 % is at the mass higher education stage, whereas a population in which this percentage is over 50 % is at the universal higher

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education stage (Kitamura 1986; Amano 2003). Taiwan's percentage in the year following the lift of martial law (15 %) reflected the massification of higher education.

The population of Taiwan is currently affected by a declining birthrate and, consequently, an aging population. The number of people born in 1981 was 410,000. In 1991, approximately 320,000 people were born, and 250,000 people were born in 2001, representing an abrupt decrease in the birthrate. Approximately 210,000 people were born in 2004, and, in 2005, the number of births was only 200,000. The low birth rate accelerated the massification of higher education in Taiwan, and, in 2004, the percentage of people aged 18–22 years entering university was higher than 50 %, representing a shift to the universal higher education stage. This percentage was nearly 70 % in 2012 and has continued to increase. Trow proposed that, when the massification of higher education rapidly progresses, universities exhibit liberalization, personalization, and diversification (Trow et al. 1976; Amano 2003); however, universities in Taiwan have not adopted these principles. After the 1980s, higher education institutions in Taiwan encountered international and domestic competition when domestic political, social, and population changes occurred.

On April 10, 1994, civil society organizations organized marches to initiate education reform and elicited a tremendous response. The requirement "to establish many schools and universities" became a major objective of education policy. This objective led directly to the deregulation of middle and higher education, and higher education continued to increase rapidly in Taiwan. Table 20.1 shows that the number of higher educational institutions increased rapidly in the 1990s. The number of colleges decreased, but the number of 4-year universities increased. By 2000, the number of 4-year universities had increased from 58 to 127, but the number of

Table 20.1 Taiwan higher education enrollment of higher education changing (18–21 years old)

Academic year	Total	University (private)	College (private)	Specialized college(private)	18–21 year old Higher Education net enrollment rate
1985	105	16 (7)	12 (6)	77 (56)	13.88
1991	123	21 (8)	29 (14)	73 (60)	17.18
1995	134	24 (8)	36 (18)	74 (58)	25.61
2000	150	53 (28)	74 (50)	23 (19)	33.32
2005	162	89 (48)	56 (46)	17 (14)	49.05
2010	163	112 (67)	36 (30)	15 (12)	63.76
2012	166	120 (73)	31 (27)	15 (12)	67.27

Source: Ministry of Education website. ROC Education Statistics (102 version). http://www.edu.tw/pages/detail.aspx?Node=1052&Page=19984&wid=31d75a44-efff-4c44-a075-15a9eb7aecdf&Index=1. (2013/11/06)

Explanation:

1. Figures in the table included in public and private schools. ( ) expressed the number of private schools
2. Figures in this table does not contain military academies and Open University.
3. Increased two religious training college in 99 academic year
4. Net enrollment rate = The number of school-age students in the level of education ÷ school-age population × 100

colleges had decreased from 72 to 23. Many of these colleges converted into 4-year universities. Specifically, two factors influenced teacher education institutions: the excess demand for nurturing and the declining birthrate.

This study involved analyzing Ministry of Education survey data and the relevant literature by using empirical research methods. In addition, this study investigated the impact of higher education on the massification of higher education in Taiwan, especially the impact on traditional teachers colleges, and explored the challenges and transformation by examining the case of a small national university in Taitung, Taiwan.

20.2 Changes in Taiwan Teacher Education

On November 21, 1979, four characteristics of teacher education in Taiwan were stipulated in the "Teacher Education Law"; specifically, teacher education is managed by the government, independent schools are established, salaries are publicly funded, and teaching locations are allocated by the government. The demand for higher education in the 1980s increased because of the impact of European and American social ideological trends, structural unemployment, rapid changes in Taiwanese society, the abolition of martial law, economic liberalization, a market-oriented approach to education, and emphasis on diversity in society. These changes caused government policy concerning teacher education to be questioned. In February 1994, the "Teacher Education Law" was passed, changing the system of teacher education in Taiwan. Teacher education institutions, which previously focused on cultivating authority, began to promote diversity, openness, and nurturing. According to this policy, normal junior teachers colleges were upgraded to teachers colleges in 4 year-university. In addition, general universities quickly established teacher education programs to educate teachers with various skills and teaching styles. Within a year, the number of teacher training institutions in Taiwan rapidly increased. In 1994, there were only 12 primary teacher training colleges (three normal universities and nine teachers colleges); however, in 2011, there were eight normal/education universities, nine normal/education, and 55 teacher training institutions (Ministry of Education 2011a). This information is summarized in Table 20.2.

It creates the phenomenon of wandering teachers, which is attributable to the oversupply of teachers and birthrate decline. To address this phenomenon, teachers colleges must adjust their curricula and modify their goals. However, many schools cannot implement these adjustments because government finances are limited. In addition, some regional colleges have demanded to be upgraded as universities. To solve the aforementioned problems, small colleges should be merged to increase competitiveness among institutions of higher education. Integrating educational resources enables reconfiguring the education system reasonably and enhancing the performance of schools, thus improving the educational environments in which students learn. Schools should emphasize the merged model as well as consider

Table 20.2 The type and quantity of teacher training institutions in Taiwan

Type	Numbers	Name of teacher training institutions
1. Normal/University of Education	8	National Taiwan Normal University, National Changhua University of Education, National Kaohsiung Normal University. Taipei Municipal University of Education, National Taipei University of Education, National Hsinchu University of Education, National Taichung University of Education, National Pingtung University of Education
2. Teacher/Faculty of Education	10	National Chiayi University (Teachers College), Tainan National University (Faculty of Education), National Taitung University (Teachers College), National Chengchi University, National Dong Hwa University (Hualien Teachers College), National Chi Nan University Chung Yuan Christian University, Chinese Culture University, Asia University, the capital of Taiwan University
3. Teacher training institutions (Teacher Education)	55	55 institutions including National Central University

Source: Ministry of Education (2011a). Statistical Yearbook of the Republic of teacher education

Notes: The 55 teacher training institutions are National Central University, National Chung Cheng University, National Sun Yat-sen, National Chung Hsing University, National Taipei University, National Taipei University of Technology, Taipei National University of the Arts, National Taipei University Health Care, National University of Tainan, National Taiwan University, National Taiwan Ocean University, National Taiwan University of Science and Technology, National Taiwan University of Arts, National Taiwan College of Physical Education, National Chiao Tung University, National Cheng Kung University, National Pingtung University of Science and Technology, National Pingtung Institute of Commerce, National Kaohsiung Hospitality College, National Kaohsiung University of Applied Sciences, National Tsing Hua University National Yunlin University of Science and Technology, National University of Physical Education, Taipei Physical Education College, Da-Yeh University, Zhongshan Medical University, Chinese University of Yuan Ze University, College of Languages, Shih Hsin University, Tainan University of Applied Sciences, University of Science and Technology Hiromitsu positive repair technology University, the University of mysterious prize, Ming Hsin University of Science and Technology, Soochow University, Tunghai University, Chang Gung University, Chang Jung Christian University, Southern Taiwan University of Science and Technology, Nanhua University, Kun Shan University, Tamkang University, Feng Chia University, Chaoyang University of Technology, Hua Fan University Tzu Chi University, I-Shou University, Chia Nan University of Pharmacy and Science and Technology, University of Actual practice, Fu Jen Catholic University, Fooyin University, Ming Chuan University, Te University, Providence University

educational resources and the effectiveness of education. Implementing and promoting the merged model facilitates achieving maximal benefits through minimal investment.

It is to enhance the quality of education and the pursuit of excellence in universities (Ministry of Education 2002b). The Ministry of Education encourages schools to increase competitiveness by integrating resources. A school that desires to merge must submit a merge plan and undergo government review. Schools can engage in inter-institution cooperation; for example, they can hold interschool classes and teacher and student exchanges as well as jointly plan the use of research facilities and research environments. When the time is suitable for replanning a merger, the resistance to merging is minimized (Ministry of Education 2001b).

The government improves the quality of pre-service teacher education programs through administrative and professional review, which includes establishing mechanisms to assess the supply and demand for teacher education and establishing a long-term tracking database system. In addition, the government publishes the "Teacher Education Statistics Annual Report" to adjust the quantity of teacher training programs. The government has continued to assess the conformance of teacher training colleges to teacher training policy "high quality and appropriate amount" and "out and reward." In addition, the government actively promotes the development of plans for exquisite characteristics in teacher training school and provides scholarships to attract outstanding students to the field of education (Ministry of Education website 2014).

To improve the quality of higher education, educational resources must be combined and used effectively. Although the quantity of higher education institutions has increased, some schools are too small. The benefit of investing in education is low; this benefit is not consistent with the economic scale and influences the overall effect of education. Recently, the government has actively encouraged the combination of higher education institutions. The scale of higher education can be expanded to reduce costs and promote academic competitiveness. By tailoring programs to the demand of a local region, schools can comply with "The Development Plan for the State-run Regional Integration of the Resources of Institutions of Higher Education" to engage in cooperation among schools, form strategic alliances, or collaborate with complementary state-run institutions of higher education and, thus, effectively integrate resources (Ministry of Education 2002b).

The massification of higher education differed in Taiwan and Europe. After the 1980s, because of domestic political factors and education policies, the Taiwanese higher education system underwent massification within a few years and quickly entered the universal stage within a decade. In 2010, the low birth rate caused the percentage of the population engaged in higher education in Taiwan to rise rapidly. This rapid massification of higher education in Taiwan caused several changes to occur. First, the center of higher education shifted from national universities to private universities. Second, technical colleges transitioned to 4-year universities of technology. Third, teacher education institutions became education colleges or general universities. Among the three changes, the effect on teacher education institutions as well as the subsequent transformation of these institutions is the most

critical because nearly all of the teachers colleges in Taiwan were public colleges before the massification of higher education occurred. Normal universities educate future primary and secondary school teachers, whereas teachers colleges educate kindergarten and primary school teachers. These changes occurred at two points in time. On July 1, 1987, elementary and kindergarten teachers were able to receive a 4-year university degree from a teachers college. In 1994, the "Teacher Education Law" was passed, and teacher education programs were converted from a single system into a diverse reserve system. In addition, the process for distributing teachers changed to an open selection process. After the "Teacher Education Law" was implemented, the number of teacher education institutions increased rapidly. In 1994, only three normal universities and nine teachers colleges served as the major teacher training colleges. By 2011, eight teacher education universities and nine teacher and education faculty schools had been established, and 55 schools had teacher training institutions (teacher education schools; Ministry of Education 2011a). The changes in teacher education are summarized in Table 20.3:

Implementing the new teacher education system resulted in pressure to diversify and increase openness among normal universities and universities of education; this pressure, combined with the low birth rate, resulted in a surplus of teachers. Consequently, receiving a teacher education is no longer an advantage, and graduates are often unemployed because departments of education provide students with no expertise other than that related to teaching, and changing career paths is difficult for those unable to find teaching positions. In addition, traditional teachers colleges are too small, exhibit a high level of homogeneity, and must contend with the recent rapid expansion of higher education. Furthermore, these colleges are affected by the financial problems of the government and encounter problems such as a low number of students, enrollment difficulties, and social criticism. In response, the Ministry of Education implemented the "Development Plan for the National Integration of the Regional Resources of Colleges" to facilitate the transformation of teachers colleges (Ministry of Education 2003) and a student cap to control teacher qualifications (Ministry of Education 2006).

Enacted in 1995, the "Teacher Law" and "Qualifications and Accreditation" require teachers to complete a qualification test and receive two types of validation namely a verification for senior high school teachers and a specialized school teacher certification. High school and kindergarten teacher qualification measures were developed in 2003 (2003/07/31–2013/07/08). Table 20.4 shows the subjects addressed in the teacher's test.

To receive teaching certification, candidates (1) must achieve an average total score of over 60 points; (2) cannot receive score lower than 50 points in two subjects; (3) and cannot receive a zero in the tests identified in Table 20.4. A zero is received when a test is not completed. Some people who pass the examination receive a teacher's certificate from the central competent authority. The government has recently planned a second stage of teacher training volume planning solutions to meet the objectives for controlling the quantity of teacher training programs (Ministry of Education 2012). In 2004–2007, the number of teachers who qualified reduced by 60.48 %. In recent years, the teacher qualification examination has been

Table 20.3 Development of Teacher Training Systems in Taiwan

	Initial stage after the war 1945–1949	In initial stage of the Republic of China reaches Taiwan 1949–1979	Period of law of teacher education 1979–1994	Period of Teacher Education Law 1994–2002	Progress greatly teachers education 2013–
Policy for education	Emphasis on nationalism and education	National recovery	Defense Education	Plural opening	12-year national education
		Nationalism Education	Government nurturing teachers	Plural entrance	Professional Development
		9 years national education	Public funds cultivate		Teacher Education Support System
			The single of Teacher Education		
Political shape	Political reshuffle	Martial law	1987 lifts the martial law	Political democratization	
Political system	Imposition of martial law (1949/5)	Homestead (1951)	Lifting of martial law	Overcome impetuosity and exercise patience	
	375 rent reduction (1948)	Tiller (1953)	Reported ban open		
		Ten Major Construction Projects (1973)	Party ban open		
Important policy for education of normal school			Change teacher specialized school to teachers college	Diversification of Teacher Education	Teacher Education White Paper
Teachers nurture the characteristic	Transition	Teacher expansion	Responsible for handling	Fair competition	Own expense and publicly funded scholarships
	Teacher expansion		Public funds to develop	Public training	Total quantity control
	Enhance the teacher nurture quantity		Distribution Internship	Own expense	Teacher certification
				Teacher certification	Teachers' professional ethics, responsibility, exquisite, sustainable

(continued)

Table 20.3 (continued)

	Initial stage after the war 1945–1949	In initial stage of the Republic of China reaches Taiwan 1949–1979	Period of law of teacher education 1979–1994	Period of Teacher Education Law 1994–2002	Progress greatly teachers education 2013–
Main service life	3 years	3 years Specialized schools(1960)	4 years (1987)	4 years Teachers College	4 years
		5 years Specialized schools(1964)		Bachelor+Teacher Courses	Bachelor+Teacher courses
				Bachelor teacher after class	Master+teacher courses (4+2 years)
Teachers foster	6 (1945)	11 (1949)	13 (1993)	65 (2000)	73 (2012)
The school institute counts	9 (1948)				

Source: Finishing by researchers

Table 20.4 The subject areas of teacher qualification exam in Taiwan

Class Division	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5
Kindergarten	Chinese language proficiency test (Including Chinese, writing, reading, Pronunciation and speaking, etc.)	Educational principles and systems	Child Development and Guidance (Including Early Childhood Physical, Language Development, Cognitive, Social, Personality, Emotional, Moral Development, etc.)	Kindergartens Curriculum and Instruction (Including Early Childhood Curriculum Theory, Curriculum Design, Teaching Theory and Design, Teaching Environmental Planning, Teaching Assessment, etc.)	
		"Education Principle" with educational psychology, sociology of education, educational philosophy;			
		"Education system" associated with this stage of education system, laws and policies			
Elementary School	Chinese language proficiency test (including Chinese, writing, reading, Pronunciation and speaking, etc.)	Educational principles and systems	Child Development and Guidance	Elementary School Curriculum and Instruction (Including elementary school curriculum development and design, teaching theory and design, classroom management, teaching assessment, etc.	Math Aptitude Test (including ordinary mathematics and Mathematics Teaching)
		"Education Principle" with educational psychology, sociology of education, educational philosophy;	"Child Development" including physical, cognitive, language, social, moral, personality, emotions;		
		"Education system" associated with the education system and the stage, laws and policies	"Child Guidance" with the main theory or school counseling, counseling ethics, group counseling, learning counseling, Children adjustment problems, psychological and educational testing		

(continued)

Table 20.4 (continued)

Class Division	Subject 1	Subject 2	Subject 3	Subject 4	Subject 5
Secondary Schools	Chinese language proficiency test (including Chinese, writing, reading, Pronunciation and speaking, etc.)	Educational principles and systems	Youth Development and Counselling	Secondary school curriculum and teaching (including secondary school curriculum development and design, teaching theory and design, classroom management, teaching load rating	
		"Education Principle" with educational psychology, sociology of education, educational philosophy	"Youth Development" including physical, cognitive, social, moral, personality, emotions		
		"Education system" associated with the education system and the stage, laws and policies	"Youth counseling" with the main theory or school counseling, counseling ethics, group counseling, learning counseling, behavioral counseling, career counseling, adolescent problem diagnosis		

Source: Finishing by researchers

based on the "high-quality and appropriate-amount teacher education policy" and the principles of "appropriate degree of difficulty" and "rationalization." In 2012, 9,439 people took the examination, and 5,608 people passed, representing a pass rate of 61.78 % (Ministry of Education 2014).

In addition, the government no longer applies a reward and evaluation system to teacher training institutions. For example, to enhance the characteristics of teacher education, to provide teacher training scholarships, to strengthen teacher training and student service learning, to increase the effectiveness of educational mentors, and to apply more stringent certification examinations for secondary education, primary education, and kindergarten teachers (Ministry of Education 2014). The government seeks to develop a new model of teacher education.

Every teacher training institution in Taiwan is actively undergoing self-transformation. To conform with government policy, several schools have developed policies involving "nurturing diverse talent" and "supporting vital departments." These measures have enabled students to meet the demands of society and industry. Schools can flexibly adjust departments to develop a diversified pipeline of higher education personnel training and can establish research institutes and 2-year job training classes (e.g., professional studies programs designed for working professionals) to increase learning opportunities for staff members. In addition, schools can offer interdepartmental courses, enabling students to study two majors. These policies facilitate the development of students with various talents into trained industry professionals (Ministry of Education 2012). Problems affecting teachers colleges include the excessive number of teacher training institutions, the decrease in the number of students (because of the low birth rate), and the number of teachers prepared questions. The transformation of teachers colleges is more complex than other college transitions, but it yields benefits. Knowledge is obtained increasingly quickly because modern society changes rapidly. Students tend to learn in diverse ways, and the professional growth of teachers must advance with the times. Therefore, teacher in-service education should be considered seriously; it provides a wide range of teacher education pipelines for training teachers to engage in lifelong learning according to the "Teacher Education Law," the "Program for Enhancing the Quality of Primary and Secondary School Teachers," and "High-quality Teacher Professional Development Programs" (Ministry of Education 2014).

20.3 Lesson of Higher Education Massification

The reform of NTTU is described as follows. The Japanese scholar Amano stated, "The university is an extremely conservative organization, and it rarely spontaneously completes internal reforms. School reform typically occurs when schools are subjected to external pressures, such as the number of new students, financial problems, and employment opportunities. Higher education institutions that enter the popular stage will be forced to be innovative, although various types of higher

education systems exist in the country, to survive in a crisis and compete with other higher education institutions" (Amano 2003). The massification of higher education in Taiwan differed from that of America and Europe, but the active involvement of the government and the influence of external factors is similar to the massification process that occurred in Japan (Kitamura 1986, p. 118). However, the evolution of higher education occurred at a different time in Japan. Japan enforced massification in 1966 (Amano 1986, p. 128) and entered the universal stage in 1999 (Amano 2003, p. 141). Table 20.5 shows the stages of higher education development in Taiwan.

In Taiwan, the massification of higher education occurred in 1988, 22 years after massification occurred in Japan. The massification process in Taiwan was completed in 2004 and had taken only 17–18 years, which is approximately half of the time required in Japan (refer to Table 20.1). In other words, Taiwan encountered more changes and challenges than European countries and Japan did. Amano (2009) stated that "Because of the substantial changes in the population that occurred over the past 18 years, the government has been unable to implement educational programs for the control of scale" and that "the establishment of market-oriented private institutions signifies the arrival of a new era of colleges and students and increased access to ensure. The high school graduation rate is rising rapidly. It will reach universal in the short term" (Amano 2009, 2013). However, the effect of implementing political policies in Taiwan is substantial. The transformation of NTTU involved active participation by the government. The massification of higher education in Taiwan occurred during the advent of internationalization and globalization (Kitamura 1984, p. 50). Because of global competition, the internationalization of education in numerous countries is crucial to enhancing the competitiveness of schools, and this principle applies to Taiwan. The development of international education occurred late in Taiwan compared with advanced countries.

Table 20.5 Development stage table Taiwan Taiwan Higher Education

Stage of development	Times/period	Policy	Notes
Elite stage 15 %	–1987 The martial law period	Technical and vocational education policy	2, 3, 5 years specialized secondary schools
Massification Stage I 15–35 %	1988–2001 Height growth period	University of deregulation policy	Specialized secondary schools transition into university
Massification Stage II 35–50 %	2002–2005 Structural Reform period	Market principle policy	Colleges transition into universities
Universalization Stage I 50–65 %	2005–2011 Reconstruct period	Quantity control policy	Control the number of universities and students
Universalization Stage II 65 %–	2011–	Integration and elimination policy	To merge or eliminate university with difficult operating

Source: Finishing by researchers

The internationalization of education has become a priority in the educational development of Taiwan. In the Ministry of Education (2001a) *Higher Education Policy White Paper*, an article in which university education was analyzed identified the "insufficient internationalization of university education" as a critical problem, and that the English courses and standards of university education in Taiwan should be enhanced to increase the competitiveness of Taiwanese universities (Ministry of Education 2013).

In 2011, the *White Papers on International Education in Primary and Secondary Education* announced that schools must consider internationalization: "Globalization is not an option, but a must, because globalization affects Taiwan. Face of the diverse cultural system, the depth and breadth of education must be expanded, and comply with international standards. In the twenty-first century, Taiwanese citizens must understand the concepts of internationalization and the global village. The educational system should be expected to play an active role in helping people prepare. To establish a stable foundation for the development of the community, respect, tolerance, and the value of intercultural exchanges should be promoted, and teachers should know how to teach students in a multicultural environment" (Ministry of Education 2011b).

In response to the massification of higher education, NTTU should enhance international and regional public assistance when responding to the effect of massification on higher education. The transformation of NTTU provided an opportunity to enhance the cross-border competitiveness of Taiwan.

20.4 Difficulties and Solutions of Teachers Colleges in Peripheral Regions

After developing a diversified pipeline for teacher education, teachers colleges are bound to transform for the following main reasons: (1) to adjust the scale of operation of national universities and colleges and, thus, improve education quality and school performance; (2) to enable regional colleges to merge into a comprehensive university, developing new types of higher education institutions and increasing competitiveness among institutions of higher education; and (3) to integrate and share university resources to meet the needs of the region and promote educational development in the region. School consolidation can be divided into two types: government-led and spontaneous consolidation. University combination types are strong and weak combinations, strong and strong combinations, combinations of institutions of the same level, and regional combination (Ministry of Education 2002a, b). Taitung County contains only one 4-year college, namely NTTU.

Taiwan currently has more than 160 universities and colleges, most of which are small and medium-sized schools. In the past, teachers colleges accommodated approximately 2,000–3,500 people (not including summer students). The number of students is limited. Taitung is a peripheral region of Taiwan. NTTU is the only comprehensive university in Taitung County. NTTU was originally established in 1948

as Taiwan Provincial Taitung Teachers School. It was upgraded to Taiwan Provincial Taitung Teachers Junior College in 1969, to Taiwan Provincial Teachers College in 1987, and to National Taitung Teachers College in 1991. Finally. in 2003, it was upgraded to NTTU. The two most vital years in the transition of NTTU were 1987 and 2003; these times comply with Ministry of Education policy. Taitung Teachers College has been the only institution of higher education in Taitung for a long time and, thus, is responsible for the development of higher education in Eastern Taiwan. During the transformation of NTTU into a comprehensive university, it first encountered a declining birthrate, internationalization, and free competition in higher education. Schools must address the problems associated with a surplus of teachers, departmental transformations in teachers colleges, and the supply and demand of social talent; meet the challenges of competition; and satisfy needs for social development. Therefore, Taitung Teachers College quickly conformed with policy after education was deregulated in 1987 and subsequently transformed into a 4-year higher education teacher training institution. In 2003, in response to the surplus of teachers in Taiwan, the Ministry of Education enacted policies to reduce the number of teachers and students and, thus, cultivate personnel that meet the demands of society and industry. Consequently, the number of teacher education students substantially decreased by more than 60 %. Taitung Teachers College maintained the tradition of providing teacher education, and is responsible for providing inservice training and facilitating professional development in Eastern Taiwan.

NTTU comprises two campuses and three colleges: the College of Humanities (Department of English, Department of Chinese Language and Literature, Department of Music, Department of Art Industry, Department of Somatic and Sports Leisure Industry, Department of Public and Cultural Affairs, and Graduate Institute of Children's Literature), Teachers College (Department of Digital Media and Culture and Education Industry, Department of Early Childhood Education, Department of Physical Education, Department of Social Studies Education, Department of Special Education, Graduate Institute of Language and Literacy Education, and Department of Education), and College of Science and Engineering (Department of Applied Science, Department of Mathematics, Department of Information Science and Management Systems, Department of Life Sciences). In addition, NTTU has a sports school (junior high and senior secondary 6 years a consistent), an affiliated primary school, a kindergarten, and special schools (Taitung University Website 2013; Fig. 20.1).

In addition, NTTU created job training classes and a 2-year Master of Education program managed by the Institute of Education according to the "development plan for the national integration of the regional resources of colleges" implemented by the Ministry of Education. During the advent of globalization, NTTU established a normal college and a teacher education college to teacher training function other than to maintain and has a Division of Continuing Education that manages inservice teacher training (Ministry of Education, 2002a, b, 2003). In addition, NTTU provides education leadership training through doctoral courses offered by the Institute of Education (3 places/year) and through the PhD program provided by the Graduate Institute of Children's Literature (5 places/year; Taitung University 2013a, b).

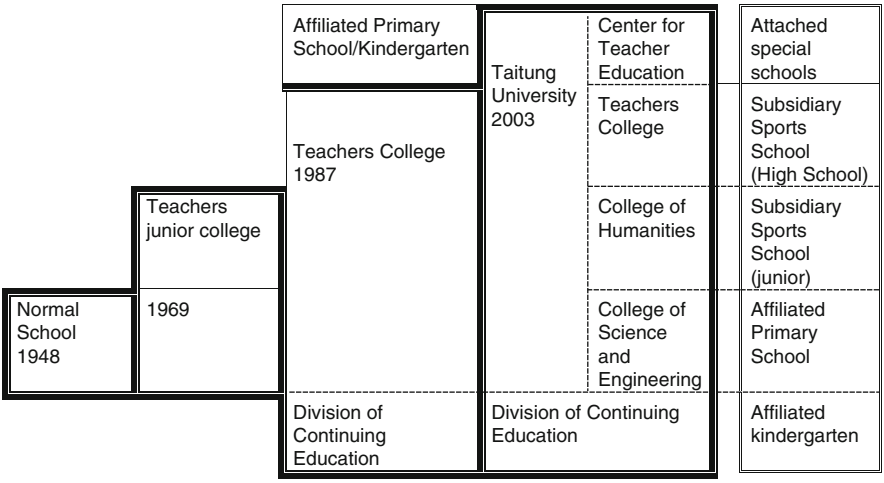

Fig. 20.1 Evolution of Taitung University (Source: Finishing by researchers)

As shown in Fig. 20.1, inservice training course offered by the Ministry of Education, can be classified into three types: (1) human resources development, (2) local development needs, and (3) teacher professional development. Enrolling in bachelor degree training courses (evening classes) is difficult because the university admission rate is 100 % in Taiwan. Because of the tendency for people to become highly educated and the development of the knowledge economy, the number of applicants of master programs has increased recently and, thus, the demand to enroll in master programs at NTTU has increased. Therefore, the demand for inservice courses in the Taitung area is high. However, the number of teachers in Taitung is low. The solution to this problem is to adjust the time during summer school, and enrollment can be expanded nationwide.

When NTTU offers job training classes, the following tasks must be completed. First, a new curriculum plan must be developed and approval must be obtained from the relevant departments and schools. The school then must obtain approval from the Ministry of Education. Teachers who can contend with competition from other universities must be identified to implement the curriculum. In Taiwan, when a school seeks to establish inservice courses, it must have teachers available to teach the courses and have offered daytime courses for over 3 years. Establishing new job training courses increases the burden on teachers. Adjunct teacher hiring is restricted because NTTU is limited by geographic restrictions and transportation inconvenience. Thus, all teachers must be based at NTTU. To enable teachers to receive additional instruction, the school raised the part-time fee for job training classes. Although teachers undertake a greater burden, they receive additional remuneration (5 % feedback). In addition, teachers have a responsibility to enhance local education standards. Furthermore, the evening division offered various job training courses as part of lifelong education. The costs of job training courses are covered by beneficiaries; therefore, the tuition can

be adjusted freely. Job training courses are a crucial source of income for NTTU and the department feedback in the border university. The income from job training courses is among the most crucial sources of revenue of NTTU.

Overall, NTTU quickly adapted to the policies and social trends related to the massification of higher education in Taiwan. NTTU transformed from a single teachers college into a comprehensive university and now has subsidiaries, namely education schools of various stages; learning content; educational institutions providing education at the young, low, medium, and high stages; special education schools; and a division of continuing education. NTTU offers the most complete education system and job training institutions in Eastern Taiwan and provides the knowledge and innovation required for students to contribute to society (Iwaoka 2006). In addition, it is responsible for providing international and professional knowledge in Eastern Taiwan. NTTU has thus reduced the gap in educational standards between the central and peripheral regions of Taiwan.

20.5 Conclusion

Although the development processes differed, the experiences of European countries and Japan offered numerous solutions for Taiwan when it began the massification of higher education. Because of political democratization and social diversity, the most prestigious personnel training institutions of higher education were affected immediately. Governments and schools must actively address challenges. The internal organizational structures of schools must be transformed rapidly and countermeasures must be developed.

In Taiwan, higher education rapidly reached the massification and universalization stages mainly because of political democratization and demographic changes. Consequently, the numbers of higher education institutions and students receiving higher education increased rapidly in a short time. In addition, the structure of higher education in Taiwan shifted from a national- or public-university-based structure supplemented by private universities to a private-university-based structure supplemented by public universities, causing the oligopoly of teacher education colleges to encounter severe challenges. Teacher training schools were required to consolidate or restructure. Many colleges transitioned into universities of education or restructured, becoming comprehensive universities. The main measures include:

1. *Universities were converted according to requirements for national and local development.*
   In addition to conforming with government policies and adjusting the internal organizational structure, the College of Humanities and College of Science and Engineering at NTTU met the demand for local personnel training.
2. *A platform for local knowledge creation and opportunities was provided.*
   The "Serving Master Program" was created to provide graduate-level education for the community. Master classes for employed students were offered each year,

and EMBA courses were offered at night, during holidays, and in the summer for part-time students. In addition, comprehensive professional development programs were provided for teachers in Yilan, Hualien, Taitung, and Pingtung. The main function of education is to foster the development of prevocational education teachers continually and to provide teachers with job training and opportunities for professional development.

3. *International services and institutions were developed to facilitate local development.* Almost all major international educational institutions located in Taiwan are required to assist local universities in peripheral regions. Universities and, particularly, the foreign language teachers who work at these universities, are responsible for assisting in the development of local schools; this entails popularizing and implementing international education in the curriculum, curriculum planning, and teacher training as well as providing learning space. NTTU plans international education visiting groups to encourage teachers to go abroad. The school assists teachers in conducting overseas academic research or attending conferences related to internationalization and develops plans to improve the language skills of teachers. In addition, NTTU has held international seminars and exchange activities with foreign schools. The mission of NTTU is to implement internationalization in a peripheral region by using various methods.

Presently, internationalization, globalization, diversification, and the development of lifelong learning systems are fully implemented in Taiwan. Public universities located in peripheral regions play a more critical role in these processes than universities located in metropolitan areas do; thus, these institutions are highly valuable.

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Part IV
Conclusion

Chapter 21
Conclusion: Lessons from Higher Education Development in East Asia

Jung Cheol Shin

This book focuses on higher education development in six East Asian countries where all of them other than Malaysia share the Confucian tradition. Based on the cultural heritage of these countries, this chapter tries to theorize which characteristics of the Confucian tradition have enabled the rapid higher education development in the region. In addition, this chapter tries to explain some of the dilemmas facing the Confucian tradition countries. Although the theorization and discourses are at an initial stage in explaining mass higher education development under Confucianism, these initiatives will require further theoretical discourses to explain education development in the region in the future. In addition, this chapter discusses some challenges that East Asian higher education is confronting and explains these challenges from the heritage of Confucianism. The balanced discourses between positive and negative factors that Confucianism brings in these countries enable an in-depth understanding of Confucianism and its relation to education development.

21.1 Confucianism and Co-development of Economy and Education

Higher education development in East-Asian countries is remarkable in its quality as well as quantity. These rapid accomplishments are related to an enthusiasm for education as well as rapid economic development (Shin 2012). Confucianism is at the center of both. However, Confucianism may not be the only explanation of the economic and educational achievement in the region. China was quite slow in its

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development before opening to Western societies; North Korea is still one of the poorest countries in the world although it was better developed than South Korea until the 1970s. Vietnam also experienced rapid development after opening to Western society and adopting market capitalism. As well as Confucianism, well designed strategic planning for national development is a core factor that explains the achievements in these countries. This section explains how Confucianism is connected to the economic and educational development.

The Confucian tradition emphasizes loyalty to the state, which is a critical factor for national integration and also for the success of national development planning (Shin 2013a). Without nation-state building, strategic planning for national development is difficult to implement. However, loyalty to the state does not fully explain why countries like China and Vietnam were lagging in national development under the communist regimes, with their emphasis on state loyalty. The gap is better explained in terms of economic systems—capitalism or socialism (Shin 2013a). These countries began to develop with their adoption of capitalism—China in the early 1990s and Vietnam since late 1990s. One characteristic of capitalism is that it encourages individual competitiveness to obtain better life economically, which in turn leads to social improvements. A major characteristic of Confucianism is that it encourages competition between individuals to achieve a higher social status (立身揚名). Consequently, when Confucianism meets capitalism it provides an optimal setting for national development (Shin 2013a). On the other hand, national development is slow when Confucianism encounters socialism because it does not encourage competitiveness between individuals.

In these Confucianist countries, state planning functioned well (loyalty to state) and individual competitiveness produced creative efforts by individuals that led to greater efficiency. The same logic can also explain educational development. Individuals compete to improve their social status and national policy encourages highly educated people to seek better opportunities in their society (Shin 2012). Providing better opportunities for educated people has long been a tradition in the Confucian culture where the national exam for hiring bureaucrats has been institutionalized as the major social system; and in these countries the resource allocations based upon education has been considered a fair system. In the social contexts, individuals are very actively engaged in gaining a better education in order to obtain a higher social status. The enthusiasm for education resulted in a willingness to pay the high costs of education (Shin and Kim 2013a). This theory also explains why these East Asian countries have achieved rapid development with limited public resource for education.

The co-development of the economy and education under Confucianism may or may not be sustainable when national economy enters a stable stage as in Japan, Korea, and Taiwan. As Shin (2012) explained in his discussion on Korean higher education, elementary, secondary, and tertiary education are plateaued, and now graduate education is becoming popular. In the developed economies like Japan, Korea, and Taiwan, a large share of college graduates are unemployed which is a serious social issue because the economy does not provide enough job opportunities corresponding to the increased number of college graduates. In these rapidly

massified higher education systems a college degree today is similar to high school graduation previously (Shin and Harman 2009). In addition, the high-tech industry demands very well educated knowledge workers and top-level technicians, so that college graduates with average competence and technology expertise may not be very attractive to employers making it difficult for bachelor degree holders to find suitable jobs. The complexity of education development in these countries is contributing to the gaps between economic structures and educational development.

21.2 Enthusiasm for Education and Higher Education Development

Higher education development in the region largely depends on society's enthusiasm for education and is the basis of high rate of private contributions to higher education while public resource input has remained at a lower level (Shin and Kim 2013a). As the statistics show, Asian countries, especially Confucian tradition countries show high rates of enrollment in private higher education institutions which in turn has contributed to the expansion of higher education. At the same time, students and parents have face rising tuition rates in these countries. The private institutions tend to increase their tuition to provide better education and compete with other higher education institutions. In this climate of competition private institutions tend to transfer the costs to their students (Shin and Kim 2013b) and the reliance on private institutions leads to questions about higher education as a public good.

A reliance on private higher education might also negatively affect social equity between social classes. As Chou discussed in Chap. 14, social equity between people declines as private institutions dominate higher education. For example, although Korean governments adopted well developed student loan systems in 2011, this does not mean that students in low socio-economic class are not discriminated against if they wish to study at expensive private higher education institutions (Shin et al. 2014). Student loans must be repaid once graduates have a job but this means that student inequity continues after graduation may become even more severe. The loan system should be designed from the student perspective, not from university's perspective. The loan system enables universities to charge high tuition and to attract students, and thereby guarantee revenues. On the other hand, the loan systems do not lessen the burden on students or parents but simply extends the current burden into their future. As a result, social inequity will be worsen in the future as the loan systems become more sophisticated.

These experiences of the developed Confucian higher education systems have implications for other developing higher education systems in East Asia or even other continents. The use of private institutions for expanding access contributes to higher education development to some extent; however, this is applicable only when the national economy is booming so that students can gain jobs and repay their

loans fairly easily. When the economy is healthy, the relative share of loan repayment as a percentage of their total salary is low, but the share (burden to student and parents) is relatively high when the economy is declining or stabilizing. It is worth considering that although the private institutions promote higher education growth, it can result in major inequity if a country fails to achieve economic development that corresponds to the rate of higher education development. Examples of this imbalance can be seen in some African and Latin American countries where higher education development has not been matched by economic development.

Governments in these countries are recommended to increase their public resource investment in higher education to match their economic development, so that students are not so burdened by the college tuition costs. This recommendation is the opposite of the World Bank's policy recommendation for developing countries, namely advising them to invest mainly in elementary and secondary education, while the cost for tertiary education is paid by students and parents through their own savings or loans for poor families (e.g., Bennell 1996). Unfortunately, private institutions are leading the development of higher education in most developing countries. If economic development is to match higher education development, social inequity will be lessened; if not, these countries are likely to suffer from severe social inequity despite the expansion in access to higher education.

21.3 Western Model or Confucian Model?

From a socio-economic perspective, Confucian tradition is a core factor in explaining higher education development in East Asia. Scholars seem to agree with that higher education development in the Confucian countries is a hybrid of Western university models and local contexts (Confucian tradition in this paper) (Neubauer et al. 2013). These countries borrow modern university ideas and develop their own models based on their local contexts (Altbach 1989). Japanese higher education is the pioneer in this approach and Japanese higher education was legacy left in Korea and Taiwan during the colonial periods. Of interest is the shared commonality among these Confucian tradition countries. Simon Marginson (2011) emphasizes some common characteristics of Confucian higher education in his discussions on higher education development in East Asian countries.

East Asian higher education is seeking to catch up to developed higher education systems by upgrading their research capability since the 1990s. Japanese higher education had already established a global research hub in the natural sciences, engineering, and medical sciences in the 1970s and 1980s (Cummings 1994); Korea, China, Taiwan, and Singapore have also joined the race to build a research hub (Shin and Kehm 2013). We can see how the Confucian countries use their own strategies to gain their globally competitive status. These countries adopted world-class university initiatives and then began to strategically support selective universities or a consortium of academic units (department, faculty, or programs) to build research clusters. This *selection and concentration* strategy was adopted across East

Asia and was well integrated into their higher education (e.g., Byun et al. 2013). The universities in East Asia adapted to the new environment more easily than the European countries. This is related to Confucian culture with its emphasis on loyalty to the state which allows the government to drive policy initiatives, while competition between universities is a fair mechanism for resource allocation.

With the success of the East Asian model, some Western countries borrowed the model to build competitive research universities as shown in elite university initiatives in Germany (Kehm 2013). Although it is relatively hard for European higher education to adopt the selection and concentration approach because all universities are equal, the success of the East Asian strategy legitimized the initiatives of policy makers in European countries. The world-class university initiatives are a case study of how the Confucian model was exported to the West. These exchanges of higher education development models between the West and East Asian countries imply that East Asian higher education has reached a relatively stable stage though it is continuously evolving. The world-class university approach is also being exported to other developing countries such as Saudi Arabia, which is seeking to build competitive research universities to transform the economy from an oil industry based one to a knowledge-based one (Shin et al. 2012).

Nevertheless, it is not clear that East Asian higher education has developed its own model for education, research, and service as it tries to catch up with Western higher education systems through aggressive policy initiatives in the countries that accept strong state leadership. It is premature to argue that East Asian higher education has developed its own models but has the potential for building a new higher education model. As Shin and Teichler (2013) argue in their book *The Future of the Post-Massified Higher Education at the Crossroads*, the social phenomena of post-massified higher education are noticeably different from those of the mass-higher education stage. If East Asian higher education is successfully institutionalized as a social system, the East Asian model might propose a new model for future higher education development. However, East Asian higher education is still evolving and their future depends on how successfully they address the issues discussed in the following section.

21.4 Can the East Asian HE Survive in the Future?

Although East Asian higher education has developed over a short period, and in terms of their research productivity their performance is outstanding, it is not certain whether their development is sustainable especially as East Asian higher education approaches the stage of post-massification. East Asian higher education may lead to a new model of higher education if they can successfully overcome their challenges. If not, they may see the collapse of the balance between education and the economy. This section focuses on three major challenges: the need to survive in the competition with Western universities, how to minimize the high unemployment rates among college graduates, and finally whether East Asian higher education can establish globally competitive research centers.

A major challenge is whether East Asian higher education can survive in the face of the competition from Western higher education systems to attract talented students and increase student enrollment. Unfortunately, East Asian countries are the main providers of international students for Europe and North America. In addition, the competition for students has intensified with the emergence of cross-border on-line providers represented by MOOCs. Although many universities use on-line providers (many of them free) as partners in their education programs and encourage their students to access the course content, these on-line providers will try to charge tuition at a level similar to current off-line universities when their programs become popular and their degrees widely recognized. As a result, these on-line providers will become strong competitors to the universities.

Another big challenge for East Asian higher education is the graduate job market. Although these countries have successfully provided job opportunities for their college graduates, their job situation is getting worse. It is not simply about economic development, but about the economic structure changes with manufacturing in decline and service industries growing. College graduates view their college education as preparing them for office work, not for sales or factory work. This is also related to the Confucian tradition where civil state officers are considered to have the ideal position. Although working in a private company is an acceptable job, most prefer to do "paper work", e.g., planning for the states or a company. Most of college graduates are therefore searching for white color work but if college graduates do not change their views about suitable jobs, the growing mismatch between graduates' preference and the job market will not be easy to harmonize.

In my discussions with Western scholars, most of them noted that unemployment of college graduates will be the biggest social problem in the near future for East Asia. Korea is the most significant case. Korean newspapers often report that more than 30 % of recent college graduates are unemployed. Although in many cases parents continue to pay the living costs for their college graduates who are unemployed, this level of family care may not sustainable within a decade. This is becoming a serious social issue in Japan, Korea, China, and Taiwan. Without a change in the belief that college education is for a "decent office job", it will be difficult to meet college graduates' aspirations. Confucianism is a primary driver in the development of higher education, but is a source of potential major social problems in the East Asian countries.

Finally, an urgent issue is whether these countries can establish research hubs. Building a research hub is critical for higher education because knowledge is the basis of education, especially at graduate level. Higher education development in the region has relied heavily on Western universities for their academic development. However, the desired quality of education is unattainable without well developed research hubs. East Asian higher education has focused on undergraduate training and many graduates have studied abroad for advanced degrees and come back to their home country as academics. This is a general pattern in most of East Asia notably Korea, China, Taiwan, and Malaysia. Clearly, higher education development without well-developed advanced degree programs poses a serious dilemma for East Asian higher education.

Although many East Asian countries are expending considerable resources in their attempts to build a research hub, a research-oriented university is not simply about resources. Academic culture based on collegiality and merit-based faculty evaluation systems are critical components of a research university. However, this goal is not easily accomplished in the short term. The Confucian culture emphasizes a seniority-based social order, and this same logic is institutionalized in the academic culture of East Asia (Shin and Jang 2013). Japan has strong seniority-based academic culture, but its academic society is relatively open to the Western merit-based academic culture. A seniority-based academic culture is the dominant academic culture in Korea, China, and Taiwan. The highest performing universities in Hong Kong, for example the Hong Kong Institutes of Sciences and Technology, illustrate how Asian higher education can rapidly achieve global status if an merit-based academic culture is institutionalized (Postiglione and Jung 2013). However, it is not easy for well established universities to change their culture because academics are generally conservative despite encouraging innovation in their classroom.

21.5 Conclusion: Higher Education in East Asia at the Crossroads

Confucianism is often discussed as a cultural force behind the rapid development of East Asian education including higher education. As has been theorized, the push to achieve social status through education is a major explanation for education development in these countries. In addition, state planning for economic development, something which Confucianism also enables has become integrated in the education development of the region. However, the situation changes when higher education enters the post-massified stage and Confucianism becomes an obstacle to transformation.

Another factor to consider is that these countries have developed their higher education based on the development track of Western higher education. The current challenge is to develop their own model of higher education because they are leading post-massification in terms of student enrollment. Shin (2013b) proposed a systemic redesign for post-massified higher education systems. In his view, current social systems including education systems are based on the human life cycle of some 200 years ago when Western political leaders designed their social systems in the nineteenth century. In addition, knowledge has grown exponentially and education institutions cannot teach the body of knowledge in a given time as they could once. Shin has therefore argued that undergraduate education is an extended version of upper secondary education, and discipline specific knowledge and technology should be taught at the graduate level. This argument also reflects the changing reality of higher education where most professional training programs are provided at the graduate level.

East Asian higher education is facing with foundational changes because post-massified higher education does not simply mean the expansion of access to higher education. As Scott (1995) discussed, post-massification brings changes in politics, culture, and economic production as well as educational changes. Redesigning in light of these changes depends on how policy makers and educators to understand such changes. If policy makers and educational leaders perceive these changes as simply expanded access to higher education, they will not successfully address these challenges and be able to propose a new model for future higher education. If however they perceive these changes as fundamental social changes in every dimension of their society, they propose a new model of higher education.

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