Chapter 1 Historical Development of Higher Education in Taiwan from Past to Present



Angela Yung-Chi Hou, Tung-liang Chiang, Sheng-Ju Chan, and I-Jung Grace Lu

Abstract As one of the Confucian societies, higher education in Taiwan has experienced varying stages of change, from a colonial to a Chinese system, now moving into a modern system. Owing to divergence of global trends, coupled with local concerns since the 1990s, Taiwan's higher education system has encountered several challenges as those in East Asia. This chapter aims to provide background information for the readers by exploring the evolution and changes in Taiwan's higher education system from a historical perspective. The objectives and impacts of the policy change at each stage are stated respectively. An introduction to the content of the book is highlighted at the end of the chapter.

Keywords Taiwan higher education · Educational reform · Policy change

1.1 Higher Education Massification in Asia and Taiwan

With the fast development of the economy and increasing social demand for higher education, higher education in Asia has evolved from the elitist stage into the massification phase over the past decades (Shin, 2015). Enrollment in Asian higher education has increased by over 50%, and in East Asia and Pacific, the gross enrollment rate even reached to world average levels (Calderon, 2012, Marginson, Kaur, & Sawir, 2011). According to INQAAHE, there are around 76,387 higher education providers,

A. Y.-C. Hou (🖂)

College of Education, National Chengchi University, Taipei, Taiwan e-mail: yungchi@nccu.edu.tw

T. Chiang National Taiwan University, Taipei, Taiwan

S.-J. Chan National Chung Cheng University, Chiayi, Taiwan

I.-J. G. Lu Higher Education Evaluation & Accreditation of Council, Taipei, Taiwan

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The Asia-Pacific region has been characterized by its diversity and complexity. The countries in the region have been shaped not only by geography, but also by the language, economy, politics, region, and their international cooperation. Due to the variations in demographic and economic development, national higher education systems in Asia differ vastly in size and growth (Hou, Ince, Tasi, & Chiang, 2015). As a result, massification generating accessibility to higher education increases public concern over decreasing quality of institutions and students, as well as escalating inequality in society. Some scholars argue from a conflict theory perspective that "mass higher education is a consequence of social competing between people are competing for the limited resources, decent jobs, and places in the upper social classes" (Shin, 2015, p. 5).

Over the past decades, the development of higher education in Taiwan has been influenced interchangeably by Chinese heritage, Japanese cultures, and American universities. Higher Education has always been in the spotlight throughout these social transformations and political system transitions. According to Chou (2015a), the uniqueness of the system characterized by a combination of Japanese, American, Chinese, and local features indicates "options facing Taiwan in its pursuit of localization and globalization in higher education" (p. 92). Since the 1980s, Taiwan society has experienced rapid changes in politics, economy, and culture, as well as education. After the 1990s, the education system moved gradually toward a universal system from elitist mode by governmental policies, including inviting private sectors to enter higher education, adopting a market-driven management approach, enhancing internationalization, and engaging in the pursuit of excellence, etc. (Ministry of Education (MOE), 2019a; MOE, 2019b).

As one of the Confucian societies, higher education in Taiwan has undergone varying stages of transformation from a colonial to a Chinese system, and shifting itself into a modern system. Yet, Taiwan's higher education system still encountered similar challenges to other parts of East Asia, owing to divergence of global trends coupled with local concerns after 2000. This chapter aims to provide background information for the readers by exploring the evolution and transformation of Taiwan's higher education system from a historical retrospect. The objectives and impacts of the policy change at each stage are stated respectively. An introduction to the content of the book is highlighted at the end of the chapter.

1.2 An Overview of Taiwan in Terms of Geography, Economy, and Political System

Taiwan, formerly known as Formosa, is located in the western Pacific, approximately 160 km off China's southeast coast, midway between Japan and the Philippines (Executive Yuan, Republic of China, 2016). Taiwan has a geographical area of 36,193

square kilometers, with the Central Mountain Range stretching from north to south. Up to 2019, Taiwan had a population of 23.77 million, with an average population density of 649 people per square kilometer (1,680 per square mile), which makes it the 17th most densely populated country in the world.

Ruled at various times by Chinese, Dutch, and Japanese government, Taiwan is considered an immigrant society, consisting of 86% local Taiwanese, 12% refugees who fled from mainland China after the Chinese Civil War, and 2% Taiwanese Aborigines, descendants of the Austronesian peoples who dominated Taiwan until the seventeenth century. Mandarin is the official and spoken language. Japanese is spoken by very senior people who received their education during Japanese colonial rule in the early twentieth century (World Population Review, 2019).

As a dynamic and democratic state, Taiwan has an economy that has grown rapidly since the 1980s. Its estimated nominal GDP per capita for 2016 was \$21,571, which ranks as the seventh largest in Asia. Its total PPP is over \$1 trillion, putting its economy in 21st place when compared to other countries in the world. As of 2018, telecommunication, financial services, and utility services were the three highest paid sectors in Taiwan (Wikipedia, 2019). Besides, Taiwan is the most technologically advanced computer microchip maker in the world (The Economist, 2018).

After being colonized by the Japanese government over 50 years, Taiwan was returned to the Chinese government at the end of World War II. Lost in the Chinese Civil War, the ruling party, Kuomintang (KMT) retreated from mainland China to Taiwan in 1949 with two million mainlanders. With authoritarian one-party leadership, the KMT government then ruled the island under Martial Law until 1987. Following the gradual liberation and democratization of the political system during the presidency of Chiang Ching-kuo from 1978 to 1988, Taiwan was gradually transformed from an authoritarian state into the first democratic country in Chinese Society (Chou, 2015b; Chiang, 2018).

1.3 Five Developmental Stages and Context in Taiwan Higher Education: Major Policies, Events, and Paradigm Shift

As indicated above, Taiwan's higher education development and governance have been interchangeably influenced by Western, Chinese, and Japanese systems. The modernization of Taiwan's higher education started during the colonial period in 1930s, and underwent a five-stage transformation, including the colonial period (Japanese rule); state control and educational reform (from 1945 to 1985); the expansion and deregulation era (from 1986 to 2005); the excellence and quality assurance golden age (from 2005 to 2016), as well as the current era of equity and social responsibility (from 2016 to present) (Chen, 1979; Cheng, 2011; Huang, 2013; Huang, 2019).

• Colonial Period (Japanese Rule): From 1920 to 1945

During the early development of Taiwanese higher education in the Japanese colonial period from 1920 to 1945, there was one university and only a few colleges, with around 5000 students in total (MOE, 2019a). They include *Taihoku Higher School, Taihoku Imperial University, Taihoku Medical College, Taichu Agriculture and Forestry College, Tainan Commercial College, Taihoku Commercial College, Tainan Technical College, and Private Taihoku Girl's College, etc. 80% of the students entering these institutions were Japanese rather than Taiwanese at that time. Taiwanese students rarely had chances to enter higher education except in the field of medicine (Wu, et al. 1989). It was found that the number of Taihoku Imperial University's graduates by 1943 was 161, contributing to 19% in total. 79 out of 179 were in the medical field, with a ratio of 45% (Wu, 1986).*

Taihoku Imperial University, Taiwan's first modern university, was established in 1928 (National Taiwan University, 2019) as one of the Imperial Universities by the Japanese government. The Faculty of Literature and Politics and the Faculty of Science and Agriculture were the first to be established with a total number of 59 students. The Faculty of Medicine and the Faculty of Engineering were set up in 1935 and 1943, respectively (National Taiwan University, 2019). The founding of Taihoku Imperial University was considered as Japanese ambition expansion into South China and the South Pacific after WWI (Wu, et al., 1989). As a result, it not only involved many well-known Japanese scholars in research centers, but also received grants and funding for policymaking research projects (Wu, Chen, & Wu, 1989; National Taiwan University, 2019).

Moreover, the colleges in agriculture, business, and industry also served specific purposes for Japanese national development. For example, Tainan Commercial College supported the strengthening of Japanese economic influence in Taiwan and in Asia; Tainan Technical College, renamed as National Cheng Kung University in 1971, initiated three fields of Mechanics, Electrical Engineering, and Applied Chemistry, which aimed to respond to Japanese and local needs in industrial development (National Cheng Kung University, 2019).

In brief, the main purpose of Taiwan higher education institutions in the Japanese colonial era was "to provide research material or high-level manpower needed for Japan's colonial policy, rather than to raise the quality of the people ruled" (Wu, et al.,1989, p. 123). Notably, Taiwanese students could not compete with Japanese students in terms of access to higher education during this period.

• State Control and Educational Reform: From 1945 to 1985

There were two phases in this period from 1945 to1985. The first phase, identified as HE model shift, was from 1945 to 1949, after Taiwan was restored to the Chinese government. All existing universities and colleges were renamed and reformed by applying the Chinese institution model, but with American forms such as academic structure, administrative organization, curriculum and instruction, degree, and graduation requirements (Chou, 2015a). Concurrently, Taiwan people had "full access to

the opportunities of education" (Wu, et al., 1989). For example, Taihoku Imperial University was formally transferred to the Chinese government by being renamed National Taiwan University and was expanded into six faculties, including the Faculty of Liberal Arts, Law, Science, Medicine, Engineering, and Agriculture (National Taiwan University, 2019). Up to 500 students were enrolled, and the study period was also changed from three to six years, under the Japanese system, to four years.

The second phase of this period began with the Nationalist government's withdrawal from mainland China and removal to Taiwan in 1949. The KMT government was aggressively committed to the development of Taiwan's higher education, but it also consolidated state control over education. In 1950, the KMT government announced so-called "educational guidelines during nation's reconstruction period" (戡亂建國教育實施綱要) as a foundation of national development. The guideline put emphasis on educating students to realize "Three Principles of the People," applying this political ideology into curriculum revision at the compulsory education, and strengthening the concept of "Recovering the Mainland" across all levels of education. In 1953, with the Nationalist government's permission, the first private university, Tunghai University, was reestablished in Taiwan by the United Board for Christian Education in China. On 11 November, The American Vice President Richard Nixon "arrived in Taichung to preside over Tunghai University's ground breaking ceremony" (Tunghai University, 2019).

Economy has always been one of the driving forces of education reforms in Taiwan. In 1953, as guiding principles for national economic development, the first four-year economic construction plan was published, addressing three themes including "agricultural and industrial production," "maintaining economic stability," and "increasing foreign income" (Executive Yuan, 2015). Due to Taiwan's economic prosperity in the 1960s, the KMT government introduced several education reforms, particularly in expanding education at secondary level and in vocational training institutes. On one hand, the education reform was meant to respond to national development and industry needs; on the other hand, government at primary and secondary schools, even teachers' colleges. In other words, education became a policy tool for the KMT government to regulate "society and people" during this phase.

Higher education expansion in Taiwan began in the 1970s after the establishment of several private higher education providers (Kuo, Ranis, & Fei, 1981). As of 1964, there were only 20 universities and 21 colleges. In 1970, the number of colleges increased to 69. However, the rapid increase resulted in the suspension of new school applications and approvals by the government in 1972. In 1985, when the government announced that it would accept new applications, the total number of universities was 28 plus with 77 junior colleges.

To conclude, the relationship between government and the higher education sector during this phase was based on a top-down approach with a bureaucratic hierarchy, which meant that the MOE had direct control power over individual universities. In general, academic freedom was extremely limited while higher education institutions functioned as parts of governmental unit. They had to follow standard rules, procedures, and regulations, enjoying limited institutional autonomy. For example, the appointment of presidents in national universities was decided by senior officials in the government; in addition, institutional governance lacked other stake-holders' engagement. There were rigid regulations about the university curriculum, including some designated compulsory courses nationwide, such as military training and the history of China. Faculty members at public universities were regarded as a subgroup of public servants, with a commitment to the public goods. All these features demonstrated that the higher education sector was under tight control, in line with governmental direction and commands. These institutions were therefore called "MOE university" (教育部大學).

• Expansion and Deregulation Era: From 1986 to 2005

This period of 20 years dominated by two major trends in Taiwanese higher education: rapid expansion, and deregulation. With limited financial resources, the government of Taiwan either allowed individual or private sectors to establish higher education institutions, or updated junior colleges to four-year universities. As a result, individual institutions were forced to be more competitive and accountable in the proliferation of marketization and massification of higher education in Taiwan (Giroux, 2002; Chou, 2015b; Shin, 2015).

During this period, the KMT government tended to be more open and supportive of the establishment of private universities. As of 1986, 14.2% of people aged 18 to 24 attended postsecondary education institutions. Moreover, in 1989, the government announced that the national agenda for education would strive to boost the quantity and quality of universities and colleges. Driven by national policy, the 1990s saw Taiwanese higher education rapidly expand and flourish. When the University Act was passed in 1994, the number of universities almost doubled. After 2000, the total number of universities and colleges had risen to 158, and gross enrollment rate increased to 49.1%. Although the number of universities increased to 142, the number of junior colleges dropped from 77 to 16 between 1985 and 2000 (MOE, 2019a). Interestingly, the growth of massification in higher education brought learning opportunities for young people, and competition for entering top research universities became severer than ever. It was argued that "while all the above may sound good, it remains debatable whether this expansion and the increasing 'choices' automatically help to improve students' life chances" (Chen, 2010, p. 3).

Following political democratization and social liberation in the late 1980s, the Taiwan government was pressured to lift state control over institutional governance and increase institutional autonomy. After the 1990s, the government was opted to respond to global and regional trends in higher education, with a particular focus on deregulation as well as accountability (Mok, 2000; Hou, 2011). There was therefore a move for deregulation, pressured by to liberate state control over past four decades began (Cheng, 2011). The grass-root movement *titled 410 Education Reform Alliance*, which soon gained massive support, was launched to echo this wider notion calling for greater deregulation of the education sectors. Chan, Yang and Liu (2018) indicates that the purpose of higher education deregulation and liberation was to "avoid inappropriate intervention from political parties and governments" (p. 79).

Chou also points out that Taiwan's universities "have shifted from traditional norms of state control to those of state supervision" (Chou, 2015a, p. 11) under political liberation movement (Song, 2005).

Several deregulation initiatives have been launched subsequently. National universities and private institutions were given more autonomy over financial management and operation of their governing body, respectively. In 1999, the National University Endowment Fund Establishment Act was enacted to "facilitate the flexible operations of university finances" (MOE, 1999). The 1997 Private Education Act Revised also gave private schools more autonomy in the operation of the board of trustees and the establishment of branch campuses. Several policies were developed in order to empower universities, including the abolishment of national required courses, authorizing universities to review and undergoing the faculty member' promotion by their own, the incorporation of national universities, and carrying out flexible scheme over enrollment by department and programs. (Ma, 2013). Moreover, the University Act also lifted state control over the appointment of university presidents, tuition fee charges, and multiple college admission (Tsai & Shavit, 2003; Chou, 2015b). To some extent, universities enjoyed institutional autonomy during this period, but the call to develop a national quality assurance system to review their accountability and academic performances quickly escalated.

• Pursuit of Excellence and Quality Assurance (from 2005 to 2016) Golden Age

The period (from 2005 to 2016) can be depicted as an era of "pursuit of excellence and quality assurance". On one hand, the government wanted to give universities more autonomy in order to pursue academic excellence; on the other hand, an external quality assurance framework was formed to assess institutional accountability. It is noted that "governments' aspirations to building world class universities has accelerated the implementation of selection and concentrated polices in regions and countries" (Cheng, Wang & Liu, 2014, p. 3), and Taiwan is no exception. As Lo indicated, "the quest for building world-class universities has become a trend of higher education development in several East Asian countries where the massification of higher education has been accomplished" (Lo, 2014, p. 24).

Propelled by global competition over attracting academic talent, the Taiwan government adopted the objective of "pursuit of excellence and promotion quality of Taiwan's higher education system" as a national agenda and concentrated governmental resources on selected universities. Since 2005, three main excellence projects have been launched, including the Development Plan for World Class Universities and Research Centers of Excellence (2005–2016), the Teaching Excellence Initiative (2005–2014), and the Technological University Paradigms (2013) (Yonezawa & Hou, 2014). Following the implementation of excellence initiatives, university recipients were pressured to internationalize campuses by recruiting international students and foreign faculty, supporting English-taught programs, deepening collaborations with foreign universities, and seeking international recognition in global rankings, etc. (Hou, 2011).

Massification has expanded access to higher education in Taiwan, as it has in other Asian nations, but it has also increased public concern about the quality of institutions and students, which addresses national concerns to development of quality assurance (QA) and management. As Trow (1973) stated, "The steady expansion of higher education appears to some observers to constitute a serious threat to academic standards" (p. 35). By 2005, the total number of colleges and universities stood at 159, with more than 1.28 million students enrolled. The admission rate had risen to 57.6%. In response, the Taiwan government developed a national QA system of higher education to undertake regular reviews of universities and programs using a mandatory approach. Founded by the MOE and 153 universities and colleges in 2005, the Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT) was commissioned to conduct external reviews over Taiwanese universities and colleges on a regular basis. In addition to HEEACT, several self-funded local and professional accreditors were founded to carry out evaluations of vocational education and selected professional programs, such as the Taiwan Assessment and Evaluation Association (TWAEA), the Taiwan Medical Accreditation Council (TMAC), the Institute of Engineering Education Taiwan (IEET), and the Chinese Management Association (CMA). Currently, there are five QA agencies and accrediting bodies recognized by the government of Taiwan. By 2016, more than 85 institutions and 3000 programs were under HEEACT's review, and their detailed final reports were published on the HEEACT official website (Hou, et al., 2018).

• Equity and University Social Responsibility as Current Stage: 2016 to Present

The 10-year implementation of national excellence initiatives and quality policy led by the former government has brought severe criticism, such as over concentration on world-class universities building, increasing inequality among higher education institutions, stricter governmental control. (Hou, 2012; Mok, 2016). In addition, university administrators and faculty members strongly complained about workloads and red tape derived from accrediting agencies (Hou, et al., 2018).

On May 20, 2016, Dr. Tsai Ing-wen, the chairman of the opposition party, the Democratic Progressive Party (DPP), was elected as the first female President of Taiwan, and DPP also gained a majority in the Legislative Yuan for the first time. The new administration faced an immediate range of economic, social, and political challenges, including pension reforms, energy development, youth unemployment, and the cross-strait relationship, as well as the issue of the widening gap in education inequality.

With the DDP Party's emphasis on "universal human rights, transitional justice and constitutional reforms", the Tsai administration believed that "all citizens are treated equally regardless of their gender, age, ethnicity and religion" (DPP, 2019). In particular, "the facilitation of the Taiwan identity awakening" and "the liberation of mind from the past authoritarian control" were urgent tasks (Wang, 2013, p. 1). The doctrine of "egalitarianism," which emphasizes that people should be treated equally regardless of social class, ethnicity, gender, or other demographics, exactly corresponds to the DPP's political vision (Zha, 2013). As soon as the new government took office, the MOE began to shift the focus to "university social responsibility," "community engagement," and "the partnership and collaborations with the institutions in the ASEAN countries."

| Year | Policy and events | Universities | Colleges | Net rate |
|-----------|---|--------------|----------|----------|
| Colonial | period (Japanese rule) | | | |
| 1945 | Taihoku Imperial University transferred to NTU | 1 | 3 | |
| | State control and educational reform:1950–1985 | | | |
| 1950 | Educational guidelines during nation's reconstruction period | 4 | 2 | |
| State con | trol and educational reform: 1950–1985 | | | |
| 1953 | The first four-Year Economic Construction Plan begins | 4 | 5 | |
| 1964 | Educational Plan in Taiwan | 21 | 20 | |
| 1970 | 5 th National Education Meeting | 22 | 69 | |
| 1972 | Suspension of new applications for establishment of private higher education institutions | 23 | 73 | |
| 1979 | Teacher's Education Act | 26 | 75 | 10.9 |
| 1985 | Establishment of private schools allowed | 28 | 77 | 13.9 |
| Expansio | n and deregulation era (1986–2005) | | | |
| 1988 | 6th National Education Meeting | 39 | 70 | 16.0 |
| 1989 | Expansion and deregulation as national agenda | 41 | 75 | 17.2 |
| 1994 | University Act Revised | 58 | 72 | 26.3 |
| | Teacher Education Act Revised | | | |
| | 410 Education Reform | | | |
| | 7th National Education Meeting | | | |
| 1995 | Teacher' Education | 60 | 74 | 27.8 |
| | Act for junior colleges upgrading into universities | | | |
| | National Education Report | | | |
| 1996 | Education Reform Report | 67 | 70 | 29.1 |
| 1997 | Moving Lifelong learning Society | 78 | 61 | 31.1 |
| 1998 | Education Reform | 84 | 53 | 33.3 |
| 1999 | Education Law | 105 | 36 | 35.4 |
| | National Endowment Act | | | |
| 2001 | White paper for Universities | 135 | 19 | 42.5 |

 Table 1.1
 Major polices and events in Taiwan higher education since 1945

| Year | Policy and events | Universities | Colleges | Net rate |
|-----------------------|---|--------------|----------|----------|
| 2003 | Higher Education Macro Planning Commission (HEMPC) proposal over "selection and concentration" policy | 142 | 16 | 49.1 |
| Pursuit c (2005–20 | of excellence and quality assurance golden age 016) | | | |
| 2005 | Development Plan for World Class Universities and Research Centers of Excellence Initiative | 145 | 14 | 57.6 |
| | Teaching Excellence Initiative | | | |
| | Establishment of Higher Education Evaluation & Accreditation Council | | | |
| 2010 | 8th National Education Meeting | 148 | 15 | 66.7 |
| 2011 | National Education Report | 148 | 15 | 68.4 |
| 2013 | Whitepaper for Talent Cultivation | 147 | 14 | 70.4 |
| 2016 | Establishment of Taiwan Institutional Research Association | 145 | 13 | 71.2 |
| Equity a present) | nd social responsibility—current stage (2016 to | | | |
| 2016 | New Southbound policy) | 145 | 13 | 71.2 |
| 2017 | Higher Education Sprout Project | | | 71.31 |
| 2017 | Program accreditation turned from compulsory into voluntary approach | 153 | | |
| 2018 | Global Talent Recruitment Program (Yushan Scholar Program) | | | 71.03 |

Table 1.1 (continued)

Source by authors

In 2017, the MOE launched a new initiative called "Higher Education Sprout Project" to replace the "Excellence Projects," aiming to "comprehensively enhance the quality of universities and promote the diversification of higher education so as to secure students' equal right to education. Besides, it expects to reinforce international competitiveness through facilitating universities to achieve world-class status and developing cutting-edge research centers" (MOE, 2018, p. 1). In contrast to the previous two cycles of excellence initiatives for the few selected universities, the new project awarded a total of 156 institutions with an egalitarian approach. Under the new scheme, all types of higher education providers are eligible for government funding. It is expected to accomplish the following four goals: implementing teaching innovation; developing universities' features and uniqueness; improving public goods; and fulfilling social responsibilities (MOE, 2019c). Likewise, the new project attempts to strike a balanced between teaching quality enhancement and a focus on research outputs (Table 1.1).

| Table 1.2 Basic data of Taiwan higher education from 1990 to 2018 | ducation from 19 | 90 to 2018 | | | | | |
|---|------------------|------------|------------|------------|------------|------------|------------|
| Year | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2018 |
| Total population | 20,401,305 | 21,357,431 | 22,276,672 | 22,770,383 | 23,162,123 | 23,492,074 | 23,588,932 |
| Population under 18 | 6,954,328 | 6,671,072 | 6,173,541 | 5,550,472 | 4,915,037 | 4,365,974 | 4,084,081 |
| Number of new born | 337,042 | 326,547 | 307,200 | 206,465 | 166,473 | 213,093 | 180,656 |
| Average GDP (USD) | 8,205 | 13,119 | 14,908 | 16,456 | 19,197 | 22,780 | 25,792 |
| Number of universities and colleges | 121 | 134 | 150 | 162 | 163 | 158 | 153 |
| Number of general universities | 45 | 53 | 65 | 70 | 71 | 71 | 70 |
| Number of universities of technology | 76 | 81 | 85 | 92 | 92 | 87 | 83 |
| Number of 4-year universities | 21 | 24 | 53 | 89 | 112 | 126 | 127 |
| Number of 4-year colleges | 25 | 36 | 74 | 56 | 36 | 19 | 14 |
| Number of junior colleges | 75 | 74 | 23 | 17 | 15 | 13 | 12 |
| Total university student enrollment | 576,623 | 751,347 | 1,092,102 | 1,296,558 | 1,343,603 | 1,332,445 | 1,244,822 |
| Number of undergraduate students | 239,082 | 314,499 | 564,059 | 938,648 | 1,021,636 | 1,035,218 | 961,905 |
| Student enrollment rate (%) | 19 | 28 | 39 | 57 | 67 | 71 | 71 |
| Number of teaching staff | 22,071 | 31,195 | 40,202 | 47,317 | 50,213 | 48,407 | 46,590 |
| Ratio of student to faculty member | 26 | 24 | 27 | 27 | 27 | 28 | 27 |
| HE expenditure (million USD) | 58,498 | 100,444 | 177,668 | 221,581 | 225,910 | 245,633 | NA |
| Source Statistics Bureau, MOE | | | | | | | |

1 Historical Development of Higher Education ...

All in all, higher education in Taiwan in the two decades has undergone significant expansion, both with respect to increases in the number of institutions and the number of enrolled students. Amid flourishing economic development, social liberalization, and democratization in the 1990s, Taiwan's higher education system has decentralized: the state now exerts less control, while universities continue to seek more autonomy. By 2016, the number of higher education institutions has increased to 158, largely due to the upgrade of junior colleges to four-year universities. These quantitative increases demonstrate emphatically that higher education in Taiwan has transformed from an elite-type to a universal-type educational system (Martin, 1973; National Development Council, 2017) (Table 1.2).

1.4 Taiwan's Higher Education System, College Admission, Learning Outcomes, and Qualification Framework

The MOE in Taiwan is the highest administrative body responsible for national educational policymaking and implementation, with the aim of raising the overall quality of education and the nation's competitiveness (MOE, 2019a). In general, higher education in Taiwan features a dual track system of universities alongside polytechnics. General universities and colleges fall in the category of the university system, while the polytechnic system includes technological universities and colleges and junior technological colleges. The Department of Higher Education and the Department of Technical and Vocational Education under the MOE are in charge of the university and polytechnic systems, respectively.

Higher education institutions (HEIs) offer qualifications under the Degree Conferral Law. In other words, degrees are conferred pursuant to the provisions of this Law. Academic qualifications are categorized into four levels, including associate degree, bachelor's degree, master's degree, and doctoral degree. Although universities and colleges can determine the names and levels of the degrees they confer, they need to report to the MOE for approval. Taiwan's universities and colleges vary significantly in size, ranging from the largest with around 30,000 students, to the smallest with fewer than 1,000 students. It is noted that only 4-year universities and colleges provide educational programs above bachelor level. Junior colleges are counted as part of the higher education system, but they only award an associate degree (MOE, 2019b). According to Article 22, Enforcement Rules of University Act, each undergraduate program requires a minimum of 128 credits. However, specific professional programs may require a higher number of credits. For example, a program of Medicine requires a minimum of 241 credits, and a program of Dentistry requires a minimum of 208 credits. Eighteen teaching hours of in-class learning time (not including learning activities out of class) are counted as one credit. In most cases, the academic year constitutes two semesters, and a semester lasts for 18 weeks.

Normally, students on undergraduate programs take four years to be awarded a qualification, but some professional programs, such as medicine, dentistry, law,

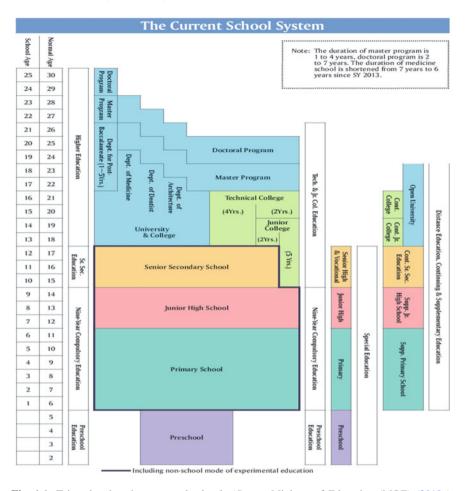


Fig. 1.1 Taiwan's education system by levels (*Source* Ministry of Education (MOE) (2019a). Education in Taiwan 2019–2020. Taipei, MOE)

and architecture, take longer. For example, medical school admits higher school graduates who then study for six years on campus, followed by a two-year internship at a teaching hospital. An increasing number of universities, in particular, offer a broad range of continuing education and online learning programs to satisfy the needs of working students in the fast-changing job market.

In 2019, Taiwan's higher education system constituted 153 education sectors and 1,244,822 students, with 46,794 teaching staff. Over 80% of this staff were Ph.D. degree holders, representing a 15% increase in the past 10 years. One third of them are full professors. The total education budget was US \$24.56 billion in 2017, when "high education accounted for 33.95% (junior colleges 0.71%, universities and colleges 33.24%)" (MOE, 2019a). To enhance global competitiveness and research and teaching standards, Taiwan's government has invested more than US \$ 400

million in higher education annually over the last five years. Besides, US\$ 20 million were allocated over two years in the Yushan Scholar Program, aimed at attracting talented scholars from across the world to teach in Taiwan's universities and colleges (MOE, 2019a) (Fig 1.1).

1.4.1 Multi College Admission Mode

According to the University Act, Article 23, students who have graduated from public or accredited private senior secondary schools, or equivalent, are entitled to study for a bachelor's degree. All students who prepare to enter universities and colleges need to take the General Scholastic Ability Test (GSAT), which aims at measuring student learning outcomes in terms of knowledge- and skills-acquisition after the completion of high school studies.

According to the GSAT scores, there are three pathways by which students can be admitted to university and college, including the Stars program, personal application, and admission by Advanced Subjects Test (AST). Regulations on performance assessment, recruitment methods, and required documents are formulated by the Joint Board of College Recruitment Commission. In the Stars program, the students need to be recommended by the senior secondary schools in which they study in order to get onto the program they are interested in. After submitting high school' recommendation, universities or colleges then evaluate whether they will admit students based on their GSAT score and face-to-face interviews. The personal application process is similar to the Stars program application process, but in this case all applications and recommendations are handled by the students individually (Ministry of Education, 2019a).

Students who either fail to be admitted by one of the two approaches described above, or are not satisfied with the exam's results, can take the AST as a final option. The AST focuses on assessing whether students possess advanced knowledge in specific subjects and the readiness to study in specific academic programs. Thus, the students can submit a preference list of programs they expect to study according to their AST score and interests. The results are announced by the Joint Board of College Recruitment Commission and the official website of all institutions (Fig. 1.2).

1.4.2 Learning Outcomes and Core Competencies

For general understanding, student learning outcomes generally refer to aggregate statistics for groups of students, such as graduation rates, retention rates, transfer rates, and employment rates for an entering class or a graduating class. Nevertheless, they just represent to a certain extent institutional performance, not being able to demonstrate what and how students learn in universities and colleges. Using a broader definition, student learning outcomes now encompass a "wider range of student

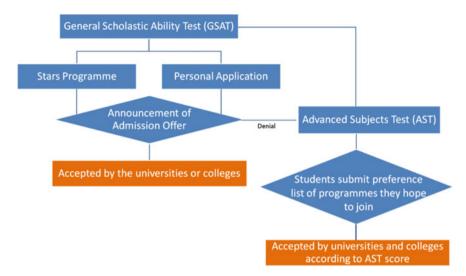


Fig. 1.2 Admission process for Bachelor's program (Source authors using data from MOE (2019a))

attributes and abilities, both cognitive and affective, which are a measure of how their college experiences have supported their development as individuals," which include acquisition of specific knowledge and skills, values, goals, attitudes, self-concepts, world views, and behaviors, etc. (Frye, 2009). The Council for Higher Education Accreditation (CHEA) also states that student learning outcomes are defined "in terms of the knowledge, skills, and abilities that a student has attained at the end of his or her engagement in a particular set of higher education experiences" (CHEA, 2008, p. 66). To conclude, student learning outcomes "can be broadly defined as something that happened to an individual student as a result of his or her attendance at a higher education institution and/or participation in a particular course of study" (Ewell, 2008, p. 5).

Since 2011, Taiwan's HEIs have been required to define students' core competencies and skills, which should match the trends of internationalization and marketization, in order to strengthen institutional competitiveness (Hou, 2011). According to the self-study reports of 70 Taiwan universities accredited by HEEAC in 2011, 19 core competencies were developed. Nine out of 19 learning outcome descriptors were commonly embraced by most institutions. They include "Humanistic literacy," "Exploration and critical thinking," "Global vision," "Cultural literacy," Creativity," "Communication," "Ethics" and "social responsibility," "Creativity," and "Knowledge and practical skills."

Currently, the emphasis on learning outcomes has been widely accepted by universities in Taiwan. The competencies that the students should possess after the completion of programs in the universities and colleges include professional knowledge, generic skills, and attitude and values. The component modules contribute to the fulfillment of the program's learning outcomes for Taiwan's universities and colleges. It was found that most of Taiwan's institutions still regard "value and attitudes" as the most important core competency that students should develop in the learning period on a study program.

1.4.3 Development of a Qualification Framework in Taiwan Higher Education

Taiwan is one of the states in Asia without a national qualification framework, though universities and colleges identify core competencies that students should acquire, as indicated above. In the face of global competition, the key to success lies in creativity and the quality of higher education. As educational markets tend to be more open, which definitely leads to fiercer competition across campuses. Given Taiwan's position in the emerging Asian market, and the competition it faces from neighboring countries such as Mainland China, India, Japan, South Korea, and Singapore, having a global outlook has become more and more important. In addition to equipping students with global mobility and employability, a consensus between government and universities has emerged to develop more practical internationalization strategies to attract excellent foreign and Chinese students, including developing a national qualification framework. Under the New Southbound policy in higher education, launched in 2016, the Taiwan government recognized the pressing need to develop a national qualification framework in order to attract more international students to study in Taiwan, particularly from ASEAN countries.

1.5 Emerging Issues in Taiwan Higher Education and Content of the Book

Higher education in Taiwan has undergone substantial transformation in terms of social functions, institutional mission, governance modality, teaching and learning orientation, and accountable outcomes. Over the past decade, the growth of massification and marketization has been the subject of most of the commentary on Taiwan's higher education. Moreover, higher education expansion in Taiwan has brought related problems, such as no clear boundary between general universities and vocational providers, insufficient funding, inequality, and unemployment.

Regardless of that, higher education is playing a more inclusive role for the new age cohort in a universal system. At the same time, university is also widely regarded as the engine of local development, economic growth, and national competitiveness. Nurturing young talent, domestically and internationally, is also a critical mission for university sectors. In echoing these new roles and missions, notable issues emerge and lead to widespread discussions in Taiwan society, including diversification versus inclusiveness, talent recruitment and retain; industry–university collaboration;

university social responsibility and community engagement; industry-university collaboration and internationalization.

1.5.1 Diversification Versus Inclusiveness

Both diversification and inclusiveness are becoming prominent and important for Taiwanese higher education with respect to the institutional typology/pattern, student constituents, and varied regional needs at the social and economic levels. Greater diverse composition of HEIs is strongly related to the differentiated positioning of institutional function in terms of research, teaching and even social engagement. Different social expectations make HEIs diversified. Within the university, a wide range of student features and characteristics, such as working students, professional training, or even disadvantaged groups, pose new challenges in how to effectively address different needs in an inclusive manner. Along with further integration into the regional development, Taiwanese HEIs are pondering how to redefine their mission and purpose by incorporating local social-economic agenda. These primary factors simultaneously drive diversification and inclusiveness in universities.

1.5.2 Talent Recruitment and Retain

Talent has become a pressing issue for Taiwan. Driven toward a knowledge-based economy, the country's universities should recruit and retain the best faculty members and students for knowledge creation, innovation, institutional ranking, and research excellence. However, the World Talent Ranking released by the Institute for Management Development (IMD) in 2019, though ranking Taiwan at 20th place worldwide, confirmed that brain drain (ranked at 46th), foreign highly-skilled personnel (48th), and attracting and retaining talent (38th), are the weakest indicators for Taiwan (IMD, 2019). Greater attention should therefore be directed to attracting and retaining domestic and international faculty members and students in the long run (Mok & Cha, 2019).

1.5.3 University Social Responsibility and Community Engagement

Another main issue confronting HEIs in Taiwan is strengthening their connection, their engagement, and their commitment for social responsibility (Vasilescua, Barnab, Epurec & Baicud, 2010). In linking to the notion of public goods, the university social responsibility scheme initiated by the MOE urged HEIs to address local social, cultural, and economic development through the synergy with multiple organizations such government, NGO, industrial or foundations (MOE, 2019a). This new movement calls for greater transparency or social responsibility from university has created new impulse to transform university's role and function except research and teaching.

1.5.4 Industry–University Collaboration and Internationalization

One of the threads for engaging with local development links with the upgrading or reskilling of industrial capacity, particularly for small and medium-sized enterprises (SMEs). Known for SMEs in Taiwan, HEIs aim for deepening collaboration with industry by creating, transferring, and applying knowledge to the real workplace and manufacturing. The urgent task for HEIs in Taiwan is to help restructure industry configuration with cutting-edge and advanced technology and abundant talent resources (Leydesdorff, n.d.). Greater cooperation between industry and university still matters for future development if Taiwan wishes to pursue a leading position in innovation and technological creation in the era of Industrial Revolution 4.0. Besides, campus internationalization is a popular strategy in Taiwan, helping to enhance global competitiveness. Universities and colleges are encouraged to not only recruit talent from across the world, but also develop collaborative international programs in order to deepen bilateral and multilateral partnerships with foreign universities.

1.5.5 Content of the Book

Based on the issues and trends outlined above, this book is divided into three parts with 14 chapters: Part I: Understanding Taiwan Higher Education in Historical, Political, and Social Contexts; Part II: Transforming Taiwan Higher Education into a Global Players; Part III: Frontier of Rapid Changes.

Part I of the book introduces the overall context and background of higher education in Taiwan. It includes three chapters. This Chapter introduces the historical development of higher education in Taiwan, showing the change from the past to the current state of the country's higher education development. Chapter 2 explains the process of diversification and convergence of HEIs in Taiwan. Chapter 3 looks at the higher education policy movement from Neoliberalism to public good.

Part II of the book provides a closer look at how higher education in Taiwan gradually shifted its structure from a traditional, government-controlled and bureaucratic system into a more liberal and diverse system, in order to become an active global player. There are seven chapters in Part II. Chapter 4 describes the QA system in Taiwan, to demonstrate how the QA for HEIs has shifted into a new era. Chapter 5. introduces the challenges the universities in Taiwan face when striving to build worldclass universities. Chapter 6 further discusses the current situation of internationalization of higher education in Taiwan, and how the country's universities play their role in the competitive global market of higher education. Chapter 7 discusses the current situation of the accountability and academic autonomy of HEIs in Taiwan and the challenges HEIs faced.

Part III of the book identifies the challenges and issues as well as solutions and new possibilities, which emerged under the changing environment of higher education in Taiwan. Chapter 8 explores the impact and the potential challenges of the aging society in Taiwan on doctoral education. Chapter 9 discusses the issue of equity in higher education for students with low socioeconomic status under the influence of massification of higher education in Taiwan. Chapter 10 introduces the technological innovations and the surge in open online courses that opened a new pathway for higher education in Taiwan. Chapter 11 explores the status and reflections of academics' multi-career pathways and promotion system in Taiwan higher education. Chapter 12 discusses the issue of the stratification of doctorate degrees within the network among academics in Taiwan. Chapter 13 discusses the implications of institutional research on university governance in Taiwan. Chapter 14, in conclusion, reflects on the trends and challenges for higher education in Taiwan.

1.6 Prospects and Conclusion

One century's progress has witnessed the rapid development of Taiwan's higher education system. The Taiwanese academic system has been significantly influenced by Japanese (before 1945), Chinese (after KMT rule), and American (since 1960s) regimes. These mixed cultural and intellectual elements constitute the main features of current knowledge, tradition, and HE framework (Chan & Yang, 2017). The turning point for the contemporary Taiwanese higher education system occurred in the late 1980s and 1990s, when the fundamental nature, structure, scale, and scope of the current academic system were formed in line with the modern university as we now know it. The developments that followed were based on these foundations, such as a liberal academic atmosphere, deregulation, widening access, emphasis on education quality, and pursuit of excellence. This remarkable progress has upgraded the majority of higher education providers significantly, making Taiwan one of the leading higher education systems among developed societies, along with Western and East Asian countries (Bhandari & Lefébure, 2015).

In spite of this appreciable achievement, Taiwanese higher education still confronts some domestic and international challenges, including aging societies, industrial revolution 4.0, smooth transition from university to work, greater social responsibility, intensified international ranking competitiveness, and transnational talent mobility. The future vision for the higher education sector in Taiwan should therefore balance the multiple values among excellence, accountability, equality, and

justice. Utilizing the expertise of 18 leading Taiwanese higher education scholars, this book reviews policy change and the transformation of the system in the context of multiple pressing issues, providing readers with authentic observations and insightful analysis of the reforms and prospects of Taiwan's higher education sectors.

References

- Calderon, A. (2012). Massification continues to transform higher education. *University World News*. Retrieved June 7, 2014, from http://www.universityworldnews.com/article.php?story=201208 31155341147.
- Chan, S. J., & Yang, C. C. (2017). Hybrid University in Taiwan: The prominence of traditional intellects. *Studies in Higher Education*, 42(10), 1853–1869.
- Chan, S. J., Yang, C. Y., & Liu, H. H. (2018). Taiwanese struggle in university governance reform: The case of incorporation. In J. C. In Shin (Ed.), *Higher Education Governance in East Asia* (pp. 73–88). Singapore: Springer.
- Council for Higher Education Accreditation (CHEA). (2008). Accreditation and student learning outcomes: A proposed point of departure. CHEA Occasional Paper, CHEA, Washington, DC.
- Chen, D. S. (2010). *Higher education in Taiwan: The crisis of rapid expansion*. Rotterdam: Sense Publishers. Retrieved from http://www.isa-sociology.org/universities-in-crisis/?p=417eds.
- Chen, S. H. (1979). Demographic and social transition in Taiwan. Taipei: Linking Publishing.
- Cheng, J. R. (2011). *The pursuit of educational Utopia—imagination of Taiwan education*. Taipei: Commonwealth Publishing Co., Ltd.
- Cheng, Y., Wang, Q, & Liu, N. C. (2014). How world class universities affects global higher education. In Y. Cheng, Q. Wang, & NC. Liu (Eds.), *Global Outreach of World-Class Universities: How It is Affecting Higher Education Systems* (pp. 1–13). Rotterdam: Sense Publishers.

Chiang, T. L. (2018). Introduction.

- Chou, C. P. (2015a). Higher education development in Taiwan. In J. C. Shin, G. A. Postiglione, & F. Huang (Eds.), *Mass higher education development in East Asia: Strategy, quality, and challenges* (pp. 89–104). Singapore: Springer.
- Chou, C. P. (2015b). Who benefits from Taiwan's mass higher education. In J. C. Shin, G. A. Postiglione, & F. Huang (Eds.), *Mass higher education development in East Asia: Strategy, quality, and challenges* (pp. 231–244). Singapore: Springer.
- Democratic Development Party. (2019). Official website. Retrieved April 1, 2019, from https:// www.dpp.org.tw/en/about.
- Ewell, P. (2008). US accreditation and the future of quality assurance. Washington, DC: CHEA.
- Executive Yuan. (2015). 4-year economic construction plan. http://ebooks.lib.ntu.edu.tw/1_file/ CEPD/2/001.pdf.
- Executive Yuan, Republic of China (Taiwan). (2016). *The Republic of China yearbook (2016)*. https://issuu.com/eyroc/docs/the_republic_of_china_yearbook_2016. Access on December 1, 2019.
- Frye, R. (2009). Assessment, accountability, and student learning outcomes. Retrieved April 27, 2009, from http://www.ac.wwu.edu/~dialogue/issue2.html.
- Giroux, H. A. (2002). Neo-liberalism, corporate culture, and the promise of higher education: The University as a democratic public sphere. *Harvard Educational Review*, 72 (4): 424–463.
- Hou, A. Y. C.(2011). Quality assurance at a distance: International accreditation in Taiwan higher education. *Higher Education*, 61(2), 179–191.
- Hou, A. Y. C. (2012). Impact of excellence programs on Taiwan higher education in terms of quality assurance and academic excellence, examining the conflicting role of Taiwan's accrediting agencies. *Asian Pacific Educational Review*, 13, 77–88.

- Hou, A. Y. C. (2015). The quality of mass higher education in East Asia: Development and challenges for Asian quality assurance agencies in the glonacal higher education. In J. C. Shin, G. A. Postiglione, & F. Huang (Eds.), *Mass higher education development in East Asia: Strategy, quality, and challenges* (pp. 307–324). Singapore: Springer.
- Hou, A. Y. C., Guo, C. Y., Chen, K. H. J., Hill, C. Lin, S. R., Chih, J. C. C., & Chou, H. C. (2018). The implementation of self-accreditation policy in Taiwan higher education and its challenges to university internal quality assurance capacity building. *Quality in Higher Education*, 24(3), 238–259.
- Hou, A. Y. C., Ince, M., Tasi, S., & Chiang, C. L. (2015). Quality assurance of quality assurance agencies from an Asian perspective: Regulation, autonomy and accountability. *Asian Pacific Educational Review*, 16, 95–106.
- Huang, J. J. (2013). New direction of university reform. Taipei: Kuan Hsia Publishing.
- Huang, J. T. (2019). Challenges and prospect for Taiwan higher education. Taipei: HEEACT.
- Institute for Management Development. (2019, November 15). *IMD world talent ranking 2019*. Retrieved from https://www.imd.org/wcc/world-competitiveness-center-rankings/world-talent-ranking-2019/.
- INQAAHE. (2019). 2017–2018 Regional scoping study internal and external quality assurance of higher education in the Asia-Pacific region. Unpublished.
- Kuo, S. W. Y., Ranis, G., & Fei, J. C. H. (1981). The Taiwan success story: Rapid growth with improved distribution in the Republic of China, 1952–1979. Boulder, CO: Westerview.
- Leydesdorff, L. (n.d.). The knowledge-based economy and the Triple Helix model. Retrieved December 10, 2019, from https://www.leydesdorff.net/arist09/arist09.pdf.
- Lo, W. Y. W. (2014). University ranking; implications for higher education in Taiwan. Dordrecht: Springer.
- Ma, S. (2013). Deregulation. http://green.nccu.edu.tw/green/asset/source/Deregulation_ppt.pdf.
- Marginson, S., Kaur S., & Sawir, E. (2011). Global, local, national in the Asia-Pacific. In S. Marginson, S. Kaur, E. Sawir (Eds.), *Higher education in the Asia-Pacific* (pp. 3–34). Dordrecht: Springer.
- Martin, T. (1973). *Problems in the transition from elite to mass higher education*. Berkeley, CA: Carnegie Commission on Higher Education.
- Ministry of Education (MOE). (1999). National university endowment fund establishment Act. Taipei: MOE.
- Ministry of Education. (2018, August 19). Higher education sprout project-sustained progress and rise of universities in Taiwan. Retrieved from http://english.moe.gov.tw/public/Attachment/712 1917593271.pdf.
- Ministry of Education (MOE). (2019a). Education in Taiwan 2019–2020. MOE: Taipei.
- Ministry of Education (MOE). (2019b). Major polices. https://english.moe.gov.tw/lp-48-1.html.
- Ministry of Education (MOE). (2019c, December 15). Center for university social responsibility. Retrieved from http://usr.moe.gov.tw/.
- Mok, K. H., & Cha, S. J. (2019). Editorial: Promoting global cities status: Talent attraction and retention in Asia. *Globalisation, Societies and Education*. https://doi.org/10.1080/14767724.2019.169 0732.
- Mok, K. H. (2000). Reflecting globalization effects on local policy: Higher education reform in Taiwan. *Journal of education policy*, 15(6), 637–660.
- Mok, K. H. (2016, January 18). The dangers in Asia's quest for world-class universities. Retrieved from https://www.timeshighereducation.com/blog/dangers-asias-quest-world-class-universities.
- National Cheng Kung. (2019). *About NCKU*. https://web.ncku.edu.tw/p/412-1000-14449.php?Lan g=en.
- National Development Council. (2017). Taiwan statistical data book. MOE: Taipei.
- National Taiwan University. (2019). *About NTU*. https://www.ntu.edu.tw/english/about/history. html.
- Rajika Bhandari, R. & Lefébure, A. (2015). Asia: The next higher education superpower? New York, NY: Institute for International Education.

- Shin, J. C. (2015). Mass higher education and its challenges for rapidly growing East Asian higher education. In J. C. Shin, G. A. Postiglione, & F. Huang (Eds.), *Mass higher education development* in East Asia: Strategy, quality, and challenges (pp. 1–26). Singapore: Springer.
- Song, M. M. (2005). Relationship of government and high education within marketization: Its implications for the role and development of private higher education institution in China. Paper presented at the Seminar of Transformation in University Management, Tamkang University, Taiwan.
- The Economist. (2018). *TSMC is about to become the world's most advanced chip-maker*. https://www.economist.com/business/2018/04/05/tsmc-is-about-to-become-the-worlds-most-advanced-chipmaker.
- Tsai, S. L. & Shavit, Y. (2003, August 22–24). Higher education in Taiwan: Expansion and inequality of educational opportunity. Paper presented at the International Sociology Association RC28 Research Committee on Social Stratification and Mobility, New York, NY.
- Trow, M. (1973). *Problems in the transition from elite to mass higher education*. Berkeley, CA: Carnegie Commission on Higher Education.
- Tunghai University (2019). *Histroy*. http://eng.thu.edu.tw/web/about/detail.php?scid=21&sid=8.
- Vasilescua, R., Barnab, C., Epurec, M., & Baicud, C. (2010). Developing university social responsibility: A model for the challenges of the new civil society. *Procedia-Social and Behavioral Sciences*, 2(2), 4177–4182.
- Wang, C. (2013). Forum criticizes DPP's education, labor policies. *Taipei Times*. Retrieved 1 April, 2019, from http://www.taipeitimes.com/News/taiwan/archives/2013/09/07/2003571561.
- Wikipedia. (2019). Economy of Taiwan. https://en.wikipedia.org/wiki/Economy_of_Taiwan.
- World Population Review. (2019). *Taiwan Population 2019*. http://worldpopulationreview.com/countries/taiwan-population/.
- Wu, W. H. (1986). *A study of the Taiwanese elite under Japanese rule*. Ph.D. dissertation, National Taiwan Normal University, Taipei.
- Wu, W. H., Chen, S. F., & Wu, C. T. (1989). The development of higher education in Taiwan. *Higher Education*, 18(1), 117–136.
- Yonezawa, A., & Hou, A. Y. C. (2014). Continuity and transformation: Continuous challenges for world-class status among universities in Taiwan and Japan as aging societies. In Y. Cheng, Q. Wang, & NC. Liu (Eds.), *Global outreach of world-class universities: How it is affecting higher education systems* (pp. 85–102). Rotterdam: Sense Publishers.
- Zha, Q. (2013). Egalitarianism in Canadian higher education: Retrospect and prospect. *International Journal of Chinese Education*, 2, 135–161.

Angela Yung-Chi Hou is Professor of Higher Education at National Chengchi University, Taiwan. Currently, she serves as Associate Dean of College of Education, National Chengchi University, as well as Executive Director of Higher Education Evaluation & Accreditation Council of Taiwan. She has been involved in quality assurance practices and international research for more than 15 years, including serving as Vice President of both International Network of Quality Assurance in Higher Education (INQAAHE) and Asia Pacific Quality Network (APQN). She specializes in higher education policy, quality management, internationalization, faculty development, and quality assurance of cross border higher education.

Tung-liang Chiang is Professor and former Dean of the College of Public Health, National Taiwan University. In 1984, he received his ScD in health policy and management from the Johns Hopkins University. Professor Chiang is one of three pioneer architects of Taiwan's National Health Insurance, which was inaugurated on March 1, 1995. In 2014–2016, he served as the Executive Director of the Higher Education Evaluation and Accreditation Council of Taiwan.

Sheng-Ju Chan Professor of Graduate Institute of Education at National Chung Cheng University, Taiwan and serves as Director for Quality Assurance Office of Higher Education Evaluation & Accreditation Council of Taiwan (HEEACT) since 2019. He is the President of Chinese Taipei Comparative Education Society and severs as executive member of the World Council of Comparative Education Societies (WCCES).

Dr. I-Jung Grace Lu is an Assistant Research Fellow of Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT). She is currently serving as the board director of Asia Pacific Quality Network (APQN). She received her PhD in education at University of Manchester. She is involved with several research projects, such as the analytical study on the development of the Taiwan Qualifications Framework (TWQF). She is professional in the fields of inclusive education, social networking, quality assurance and higher education.