

GRADUATE EDUCATION REFORMS AND INTERNATIONAL MOBILITY OF SCIENTISTS AND ENGINEERS IN HONG KONG

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As of July 1, 1997, Hong Kong ceased to be a colony of the United Kingdom and became a special administrative region (SAR) of the People's Republic of China under a "one country-two systems" arrangement. According to this arrangement, Hong Kong has been promised self-rule; it has also been promised that its higher education system can retain its unique characteristics rather than having to align with the mainland Chinese system. This paper explores higher education issues in Hong Kong.

workforce; they also needed more people educated at the highest level. The pressure for wider access to higher education was met in part by expanding existing institutions and in part by founding new ones. At present, there are eight institutions of higher education that receive funds from the University Grants Committee (UGC):

- HKU,
- CUHK,
- City University of Hong Kong (CityU),
- Hong Kong Baptist University (HKBU),
- Lingan College (LC),
- Hong Kong Polytechnic University (PolyU),
- Hong Kong University of Science and Technology (HKUST), and
- Hong Kong Institute of Education (HKIED).

GENERAL REVIEW

Hong Kong has been a Chinese territory since ancient times, except for the period 1842-1997 when it was a British colony. Situated at the southeastern tip of China, Hong Kong has a total land mass of only 1,092 square kilometers. Though it ranks 90th in terms of population, Hong Kong is the world's 8th largest trading economy. Its 6.3 million inhabitants (97 percent Chinese) enjoy the second highest living standard in Asia.

Higher education in Hong Kong has existed for more than 80 years. The oldest current institution is the University of Hong Kong (HKU) which was founded in 1911. As the governors were not always interested in making decisions on Hong Kong education (Ip 1998), it was not until 1963 that a second university, Chinese University of Hong Kong (CUHK), was established. However, as Hong Kong industry and commerce moved from low-skilled, low-wage production toward more sophisticated markets and outputs, employers needed a better educated

These institutions fulfill different roles in accordance with their size, tradition, and level; this information is summarized (with some simplification) in table 1.

CityU and PolyU, until recently polytechnics, emphasize the application of knowledge and vocational training. HKBU and LC stem from a liberal arts tradition, which regards breadth of education as important. CUHK,

Table 1. Current roles of UGC institutions

Institution	Sub-degree work	First degree work	Graduate degrees	Research	Professional schools	Links with industry or community
CityU and PolyU.....	substantial	substantial	some	some areas	some	strong
HKBU.....	-	predominant	some	some areas	-	strong
LC.....	-	predominant	minimal	some areas	-	strong
CUHK and HKU.....	-	substantial	substantial	all areas	many	high level
HKUST.....	-	substantial	substantial	all relevant areas	some	high level
HKIED.....	substantial	-	-	-	-	strong

KEY: (-) indicates not applicable.

SOURCES: University Grants Committee (UGC), *Higher Education in Hong Kong*, Hong Kong, 1996; and UGC, *Roles and Operations*, Hong Kong, 1998.

HKU, and HKUST have major professional schools and substantial research programs. CUHK and HKU are full-scale universities, and both have medical schools. HKIEd, which joined the UGC July 1, 1996, currently offers predominantly subdegree programs (similar to the U.S. associate degree) of teacher education and continuing professional education so as to serve teachers and help maintain strong links with both schools and the teaching profession.

LEVELS AND QUALIFICATIONS OF HIGHER EDUCATION

Hong Kong's children are required to remain in school until the age of 15 or the end of secondary 3,¹ whichever is earlier. They thus all receive a minimum of about 3 years of secondary education. After secondary 3, some children drop out of formal education, while others join craft and technician courses, but about 91 percent choose to stay at school for a further 2 years. They take curricula leading to the Hong Kong Certificate of Education Examination (HKCEE). Some of the learning opportunities after the HKCEE lie within Hong Kong's broad structure of higher education. These include 2- to 3-year subdegree courses, usually vocational in nature; and 3-year courses of teacher education.

At present, 38 percent of children remain in school after secondary 5 (HKCEE) and take 2-year sixth form courses leading to the Hong Kong Advanced Level Examination (HKALE). Students with appropriate grades in the HKALE may then enter 3-year diploma or first degree courses or 2-year courses of teacher education. To enter a full-time undergraduate program, a student must meet general educational qualifications, usually including proficiency in English and Chinese; and have passed the HKALE at least once. For science, technology, and medical programs, there are also specific HKALE or HKCEE subject requirements; similar requirements are less common in the arts and social sciences.

In general, a full-time undergraduate course lasts 3 years. Some courses are of 2 years' duration because they build on an earlier qualification such as a diploma in the same subject area. Additionally, students may be admitted to the second year of a 3-year course if they pos-

¹In Hong Kong, compulsory education lasts for 9 years. Primary schooling begins at the age of 6 and lasts for 6 years, and secondary junior schools offer a 3-year course in a broad range of academic subjects.

sess "advanced standing" by virtue of previous study or experience. On the other hand, some undergraduate courses are extended to 4 years because they contain one or more periods of professional experience. Examples include the courses in language education and the bachelor of science degree in speech and hearing sciences at HKU.

Those gaining first degrees or equivalent qualifications may subsequently be admitted to taught higher degrees or may undertake research for a master's degree or doctorate.² Full-time postgraduate courses leading to master's degrees or doctorates are restricted to the UGC institutions, but part-time provision is more widespread. Some non-UGC institutions offer part-time programs leading to postgraduate diplomas, certificates, or degrees. Postgraduate certificate and diploma courses usually take 1 year of full-time study or 1 to 2 years part time. Master's courses take 1 to 2 years full time or 2 to 3 years part time. The purposes of taught postgraduate courses are diverse. The diploma and certificate in education courses run by HKBU, CUHK, HKU, and HKIEd qualify successful participants to teach in secondary schools. The postgraduate certificate in law offered by CityU and HKU enables successful students to enter the legal profession as student barristers or solicitor trainees. Other postgraduate courses take specialist knowledge in a particular field beyond that acquired in undergraduate courses: an example is the M.A. degree in arbitration and dispute resolution offered at CityU.

Taught postgraduate courses are the principal means by which higher education institutions can respond swiftly to changing situations and the changing needs of both students and society. The various UGC institutions choose different ways to organize their taught courses and different nomenclature to describe them. For example, HKU's nine faculties offer about 60 taught postgraduate courses under specific degrees such as the master of science in urban planning or advanced diploma in orthodontics. CUHK has 35 graduate divisions which offer 15 master of arts, science, or social science courses and 2 diploma programs. HKUST has about 14 taught postgradu-

²In both the United Kingdom and Hong Kong, postgraduate education falls into two categories. The first category is programs based mainly on systematically taught courses that characteristically lead to a master of arts or master of science degree. These programs have only coursework, with no research or thesis requirements. The second type of program leads to a master of philosophy or doctor of philosophy (Ph.D.) degree. These degrees are largely awarded on production of a thesis or dissertation through research training (Henkel and Kogan 1993, p. 72).

ate courses, including some interdisciplinary ones, under fairly general titles. CityU's four faculties have some courses with specific titles. PolyU's taught graduate courses, mostly part time and on a credit accumulation basis, are offered by individual departments: there are about 50 in all, but many are based on a modular scheme incorporating common units. HKBU has a small number of courses of recent origin. In all, there are about 170 taught postgraduate courses available, with a typical class size of 10 to 20 full-time-equivalent students.

Many of the taught master's degrees can be extended to a master's of philosophy (M.Phil.) by the incorporation or addition of a substantial piece of research and presentation of a thesis; the M.Phil. is well-regarded in Hong Kong. The additional work is usually expected to take from a few months to a year. Other M.Phil. programs stand alone or are structured as the preliminary stages of a Ph.D. degree. The Ph.D. supposedly takes 3 to 4 years full time (the UGC has recommended support for up to 4 years), or about 5 to 6 years part time. Approximately 60 percent of students pursuing an advanced research degree take the M.Phil.; 40 percent take the Ph.D.

In an endeavor to reduce the costs of preliminary training for Ph.D. research, the science faculties in the institutions have recently introduced a scheme for joint courses. In some scientific and technological areas, because of the need for specialized and expensive equipment, work for an M.Phil. or Ph.D., although original, forms part of a team effort on a particular research topic. In other areas—most usually in the arts and social sciences—the research student works alone. Until quite recently, motivation for research in many Hong Kong universities was low. These attitudes have changed very markedly in the last few years. Thus, although research students have an important role to play in the conduct of research in some disciplines, it is difficult to pursue research degrees without an existing academic staff with both the motivation and means to search for new knowledge.

GOVERNANCE AND FINANCE

Following United Kingdom tradition, universities in Hong Kong are permitted to operate with a high degree of autonomy. Individual institutions determine their own policies for recruitment of staff and students, for the nature and length of courses, and for the balance between subject disciplines (Bray 1992).

However, the government does exercise some influence through its control of finance. The most influential body on higher education in Hong Kong is the UGC, which was founded in 1965 on the model of the UK body of the same name. Its main role is "to advise government on the funding of new institutions and the upgrading of existing ones, on major subject developments to meet community needs, on employment matters, and many other subjects relevant to tertiary education in Hong Kong" (UGC 1996, p. 9). In 1972, the committee was renamed the University and Polytechnic Grants Committee (UPGC), to reflect the inclusion of the then-titled Hong Kong Polytechnic within its purview. Following the adoption of university titles by the two polytechnics and the Hong Kong Baptist College, the committee reverted to its original title—i.e., UGC—in 1994.

UGC members are appointed by the chief executive of the SAR (before July 1, 1997, by the governor), and are all prominent in their fields. The membership comprises eminent academicians, businessmen, and administrators. No government officer sits on the committee, but its secretariat is staffed by civil servants. The nationalities of its members reflect the sources of influence from abroad. In 1998, the committee included nine local Hong Kong Chinese, four British, three American (one a professor of Hong Kong Chinese origin), and two Australian members. The remaining three members are from the Netherlands, Singapore, and mainland China (UGC 1998).

As chancellor, the chief executive of the SAR (before July 1, 1997, the governor) is the nominal head of all UGC-funded institutions. The executive head of each is its vice chancellor, who is assisted by pro-vice chancellors. The senate oversees the academic affairs of a university. Each university is subdivided into faculties and departments.

The UGC is an administrative device to ensure that institutions of higher learning can be adequately financed without misuse of large sums of money while maintaining autonomy (Mak and Postiglione 1997). The key word in the title is "grants." The UGC recommends a triennial block grant for each institution. Its funding methodology is based upon two major activities: the quantity of teaching, primarily related to number of students; and the quantity of research, largely determined by the number of academic staff. Although there is much discussion between the UGC and the institutions based upon academic and other plans and opportunities, and much discussion between the government and the UGC about available fi-

nance and community needs, once the block grant is settled, each institution has very wide latitude as to its use.

In the 1997-98 academic year, the Hong Kong government spent 1.23 percent of its gross domestic product on UGC institutions. The total amount of approved grants for these institutions was HK\$13,218 million (including recurrent grants of HK\$11,808 million and capital grants of HK\$1,410 million), accounting for 5.4 percent of total public expenditures and 27.2 percent of total public expenditures on education (UGC 1998).

Students in UGC institutions are heavily subsidized. In 1987, the government announced plans to reduce the subsidy, but projected that by 1993-94 fees would still cover only 12 percent of the total real cost. This was revised in 1991, but the new projection is still only 18 percent by 1997-98. Moreover, the government also runs a grants and loans scheme to ensure that no one will be deprived of the opportunity for higher education because of financial difficulties (Cheng 1995). The scheme seems to achieve this objective, and the high salaries for graduates make it easy for the majority of students to repay their loans.

EXPANSION AND LEVEL STRUCTURE

In the 1980s, the growing demand for a more highly qualified workforce and the loss of graduates through emigration resulted in the Hong Kong government's adoption of an ambitious tertiary education development policy. The expansion of this sector was first announced by the governor in 1988. It was revised in 1989 to set an even more ambitious pace of development, with the aim of doubling the number of first-year first-degree (FYFD) places

from 7,000 in 1990 to 15,000 in 1995. By then, 6 out of 10 sixth form completers would be able to participate in some form of higher education in Hong Kong. This would be 18 percent of the age group, compared with around 8 percent in 1990 (Sensicle 1992).

The expansion of FYFD places and the consequent growth in total undergraduate numbers are shown in table 2. From 1991-92 to 1997-98, FYFD places increased by 37.2 percent—from 10,665 to 14,632—and undergraduate enrollment rose by 56.9 percent—from 29,199 to 45,823. Due partly to the undergraduate expansion, postgraduate enrollment witnessed a corresponding expansion (table 2 and figure 1). During the same period, total postgraduate enrollment more than doubled, rising from 4,279 to 9,010. Of this, taught postgraduate enrollment increased by 86.4 percent—from 2,931 to 5,465—and research postgraduate enrollment rose by 163 percent—from 1,348 to 3,545.

If the government had very clear views on desirable undergraduate numbers, the issues were more complex and sometimes conflicting regarding postgraduate development. Hong Kong has been, in fact, remarkably reluctant to become involved in research. Until quite recently, there had only been a limited "research culture" in Hong Kong's higher education institutions (in 1994-95, only 50 percent of the academic staff themselves held doctorates). Partly because the recent major expansion of the system has led to the recruitment of many new staff members from outside Hong Kong, and partly due to the government's financial encouragement—including the 1991 establishment of the Research Grants Council as a support mechanism—that situation is changing. Research activity has recently grown very markedly and so has the number of postgraduate students. Table 3 shows this expansion: from 1991-92 to 1997-98, postgraduate

Table 2. Student enrollment of UGC-funded programs, 1991-92 to 1997-98

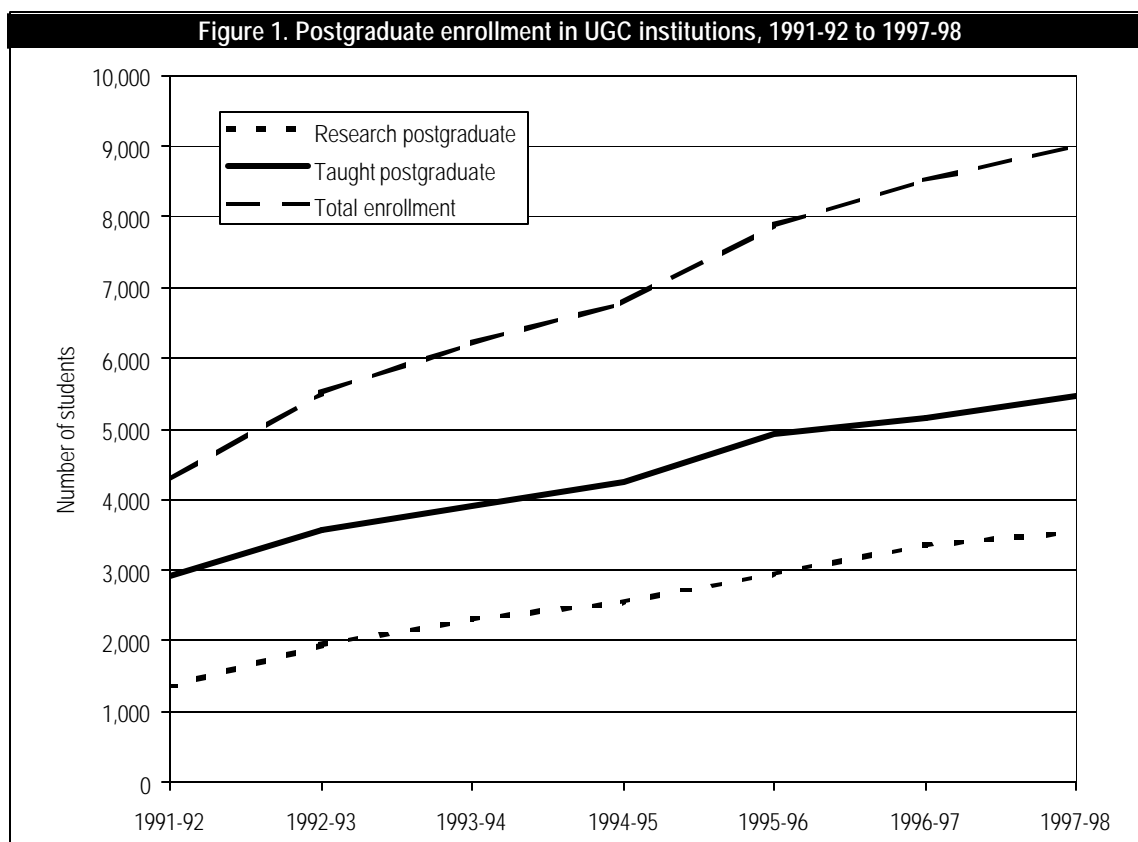
Number of full-time equivalent students enrolled ^a	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98 ^b
Total.....	47,480	51,190	54,574	57,935	62,014	69,022	69,723
Subdegree.....	14,001	12,332	10,214	9,370	9,436	14,540	14,890
Undergraduate.....	29,199	33,351	38,150	41,782	44,701	45,965	45,823
Taught postgraduate.....	2,931	3,565	3,904	4,236	4,924	5,163	5,465
Research postgraduate ^c	1,348	1,943	2,306	2,547	2,953	3,353	3,545
First-year first-degree places.....	10,665	12,090	12,726	14,253	15,070	14,779	14,632

^a Enrollment figures include blister students and nonlocal students.

^b The Hong Kong Institute of Education came under the aegis of the UGC as of July 1, 1996.

^c Research postgraduate figures refer to student enrollment numbers counted within UGC target.

SOURCE: University Grants Committee (UGC), *Higher Education in Hong Kong*, Hong Kong, 1998.



SOURCE: University Grants Committee (UGC), *Higher Education in Hong Kong*, Hong Kong, 1998.

education output increased by 139.6 percent (graduates of taught postgraduates and research postgraduates increased by 98 percent and 485.5 percent, respectively).

DISTRIBUTION OF ENROLLMENT BY BROAD FIELD

The expansion of the UGC component of the higher education system did not occur uniformly across disciplines. Rather, it has largely reflected economic development and the shift of the industrial structure in Hong Kong. As the economy shifted from relying on entrepot trade in the 1950s to manufacturing in the 1960s and 1970s, skilled and semiskilled labor of more diverse sorts were in demand. With competition from neighboring newly industri-

alized countries, Hong Kong had to shift from labor-intensive to technology-intensive industries; this in turn meant that Hong Kong would have to function as a service center rather than a manufacturing center and that its manpower needs would be changing accordingly.

In 1993, Hong Kong had a workforce of 2.8 million. Of this, 28 percent were engaged in wholesale, retail, import and export trades, and restaurants and hotels; 11.2 percent in transport, storage, and communications services; 9.4 percent in financing, insurance, real estate, and business services; 20.2 percent in community, social, and personal services; and 21.1 percent in manufacturing. The Hong Kong Statistics Department reported that the share of the labor force employed by the manufacturing sector had declined from 47 percent in 1971 to 41.2 percent in

Table 3. Graduates of postgraduate education in UGC institutions, 1991-92 to 1997-98

Level	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97 ^a	1997-98 ^b
Total.....	2,372	2,599	3,183	3,519	4,109	4,568	5,684
Taught postgraduate.....	2,117	2,274	2,668	2,924	3,386	3,694	4,191
Research postgraduate.....	255	325	515	595	723	874	1,493

^a The Hong Kong Institute of Education (HKIEd) came under the aegis of the University Grants Committee (UGC) as of July 1, 1996.

^b Graduate numbers for the academic year 1997-98 are projected.

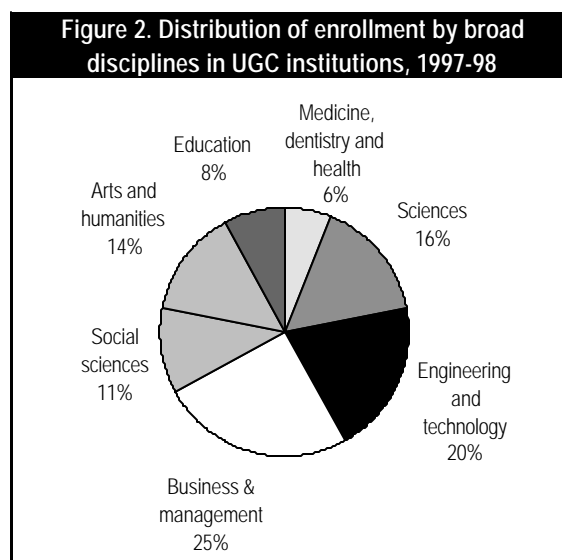
SOURCE: University Grants Committee (UGC), *Higher Education in Hong Kong*, Hong Kong, 1998.

1981 and 28.2 percent in 1991 (Cheng 1995). It is obvious that education has become an increasingly important asset for a labor force that seeks to improve its remuneration and opportunities in the expanding service industries.

Table 4 demonstrates corresponding trends in disciplinary development. From 1993-94 to 1997-98, enrollment in engineering and the sciences declined from 26 percent to 20 percent and from 19 percent to 16 percent, respectively; enrollment in business and education increased from 22 to 25 percent and from 4 to 8 percent, respectively; enrollment in medicine and the social sciences remain essentially stagnant.

The largest field in higher education in 1997-98 was business studies, which accounted for a quarter of all tertiary enrollment in Hong Kong (figure 2). Engineering and the sciences are also important (accounting for 20 percent and 16 percent, respectively); with the arts and humanities marginally behind (14 percent). The social sciences and education follow (11 percent and 8 percent); together with medicine (6 percent), these occupy smaller, but important, niches.

As far as the disciplinary structure of postgraduate enrollment is concerned, the UGC report of 1996 provides a slightly different picture. Business studies (particularly toward an MBA) and education accounted for about a quarter each of taught postgraduate students. The next largest disciplines were engineering and the social sciences, a few taught postgraduates were in the sciences or humanities. Two-thirds of research students were in scientific or technological areas.



SOURCE: University Grants Committee (UGC), *Higher Education in Hong Kong*, Hong Kong, 1998.

In 1994-95, funding for new research projects through the Research Grants Council (RGC) was HK\$245.6 million, as compared with HK\$217.7 million through the UGC. Of RGC grants, 32 percent were awarded in engineering; 26 percent in biological science and medicine; 19 percent in physical science; and 23 percent in social science, business studies, and the humanities. The disciplinary structure of higher and graduate education to a great extent matches the current economic structure in Hong Kong, in its dual role as a leading metropolis and business hub of South China and as a regional and international financial and service center.

Table 4. Student enrollment by broad disciplines, 1993-94 to 1997-98

Discipline	1993-94	1994-95	1995-96	1996-97 ^a	1997-98 ^b
Headcount (total enrollment).....	70,241	72,154	75,557	85,550	86,202
	Percentages				
Medicine, dentistry and health.....	6	6	6	6	6
Sciences.....	19	20	18	16	16
Engineering and technology.....	26	24	22	20	20
Business and management.....	22	22	27	25	25
Social sciences.....	12	11	12	11	11
Arts and humanities.....	11	12	11	14	14
Education.....	4	5	4	8	8

^a The Hong Kong Institute of Education (HKIEd) came under the aegis of the University Grants Committee (UGC) as of July 1, 1996.

^b Graduate numbers for the academic year 1997-98 are projected.

SOURCE: University Grants Committee (UGC), *Higher Education in Hong Kong*, Hong Kong, 1998.

OVERSEAS STUDY AND INTERNATIONAL MOBILITY OF SCIENTISTS AND ENGINEERS

OVERSEAS STUDY

In 1992, owing to long-standing restrictions on higher education in Hong Kong, large numbers of students went overseas, generally for three major reasons: limited educational opportunities in tertiary education, job discrimination against graduates of local institutions, and political uncertainty. Since World War II, there have been three waves of student migration. The first wave was from the late 1940s to the late 1960s; this saw students leave primarily because of discrimination at home. In general, students from mainland China universities, Hong Kong private colleges, and even from CUHK did not have equal opportunity in the job market in Hong Kong as compared to graduates from HKU. Thus they went “overseas for further studies in order to obtain qualifications recognized within the British Commonwealth or to seek opportunities elsewhere” (Wu 1992, pp. 47-48).

The second wave was caused by the student and nationalist movements of the 1960s, which culminated in the riots of 1967, and by the growth of wealth within the territory. The main push to leave Hong Kong during this phase came from both increasing affluence and political uncertainty caused by the events within China. The students who left were primarily from relatively wealthy families. Unlike their predecessors who left to pursue graduate studies, most of these second-wave students were in pursuit of undergraduate studies.

In the third wave, stimulated by political uncertainty due to the impending transfer of sovereignty to China in 1997, overseas education combined with the migration of entire families to create a major outflow of population to North America, Britain, and Australia. The majority went for university studies, but many went for secondary education as well.

Because the Hong Kong government guarded against rapid expansion of higher education before the 1980s, the supply of university places was very limited. In the mid-1970s, the proportion of those in the 17- to 20-year-old age group who had access to FYFD places never exceeded 2.5 percent (Mak and Postiglione 1997). Although the higher education sector expanded dramatically later, competition to enter higher education remained in-

tense throughout the 1980s. In the middle of the decade, less than 3 percent of the age group in Hong Kong was able to study in local universities, a figure that compared unfavorably with 5 percent in Singapore and 10 percent in the United Kingdom (Bray 1992). As late as 1994, only three institutions in Hong Kong enjoyed university status. Because of the intense competition, many people were forced to study abroad; in the mid-1980s, Hong Kong had as many students abroad as at home. Table 5 shows that the number of students leaving in the peak year of 1990 amounted to more than half of the 41,301 students in UGC-funded institutions in 1990-91. Their intake of first-year students in the same year was 8,575. Unfortunately, just as universities in Hong Kong had achieved a respectable international standard, middle-class parents were sending their children abroad because they wanted to provide them the option of remaining overseas in preparation for 1997 (Cheng 1995).

In 1994-95, 56,000 undergraduate students were enrolled in Hong Kong universities, and 28,000 were in overseas universities, resulting in a ratio of 1:0.5. At the postgraduate level, the numbers were, respectively, 7,000 and 12,000, for a ratio of 1:1.7. Of the estimated 40,000 Hong Kong students in higher education who were studying outside the territory, about 70 percent were undergraduates. Almost all of these took full-time courses.

There are only limited data available regarding subject breakdown for these students. In the United States, 35 percent took business studies and 16 percent engineering. In the United Kingdom, the proportions were, respectively, 35 and 13 percent. In Australia, half of all Hong Kong students were taking business studies, and only 9 percent were in engineering (UGC 1996).

The relative popularity of the host countries has changed somewhat (see table 5). Traditionally, the United Kingdom received the most students from Hong Kong. In recent years, the United States has taken over. For example, in 1994-95, the United States had about 13,000 Hong Kong students in higher education;³ the United Kingdom, 10,000; Australia, 9,000; and Canada, about 6,500. Numbers for other places of study, such as mainland China and Taiwan, were smaller, but may amount to another 2,000 in all (UGC 1996). Extensive overseas study is a drain on the economy, but helps make Hong Kong an international society.

³Between 1986 and 1995, American universities awarded 952 doctoral degrees to Hong Kong students (NSB 1998, p. 2-31).

Table 5. Number of Hong Kong students leaving for overseas study, 1988-91

Year	United States	Canada	United Kingdom	Australia	Total
Total.....	20,776	19,126	17,172	16,673	73,747
1988.....	4,215	3,808	3,856	3,147	15,026
1989.....	4,855	5,096	4,539	4,678	19,168
1990.....	5,840	5,681	4,349	5,258	21,128
1991.....	5,866	4,541	4,428	3,590	18,425

SOURCE: Cheng, Joseph Y.S. Higher Education in Hong Kong-The Approach to 1997 and the China Factor. *Higher Education* 30(3): 257-71, 1995.

In addition to studying abroad, students have increasingly had the opportunity of gaining access to higher education through courses offered by overseas institutions of higher education in Hong Kong. The territory has always imported some education in response to demand for subjects related to service industries such as hotel management, business administration, accounting, international trade, and financial management. As recently as 1993, it was estimated that the demand for these and similar courses largely exceeded local supply; government projections forecast a continuing shortfall in 2001 (Chan and Drover 1997). Overseas institutions are beginning to compete with local institutions for students in an expanding array of courses to help meet this need. This new trend toward the globalization of educational institutions may well make this the hub of its educational exchange with the rest of the world. The influx of overseas institutions may reflect a trend of educational institutions going in search of international students instead of international students coming to them.

INTERNATIONAL MOBILITY

The rapid increase in the development of higher education in Hong Kong made the government realize that continued reliance on an overseas organization was no longer appropriate and that it would be desirable to consider the establishment of a Hong Kong system. Large numbers of students were still going abroad, but this tendency was likely to become less pronounced when more local opportunities became available in the 1990s. After 1994, the number of students at local universities surpassed that going overseas (Postiglione 1998). There has been a reverse movement in recent years. Consulates-general of Western countries in Hong Kong have reported a decline in the numbers of emigration visas granted. For example, the U.S. consulate-general indicated that only 13,142 people were granted emigration visas in 1993, down from

14,882 in 1992 and 18,880 in 1991. There are also signs that an increasing number of people who had emigrated are returning to Hong Kong. The Hong Kong government estimated in 1995 that at least 12 percent of the people who had emigrated in the 10 years prior to 1992 had returned to Hong Kong (Cheng 1995).

Besides bringing its own students back home, Hong Kong is beginning to compete with established universities abroad in attracting overseas students. The numbers are at present small, but they are growing, particularly at the postgraduate level. Chan and Drover (1997) identified three reasons for moving in that direction. First is the extent that newly created wealth has enabled Hong Kong to develop university quality equivalent to other developed economies of the world. Second, this policy recognizes the value of diversifying the Hong Kong student body and welcoming students from other cultures to enhance the intellectual and research environment for students who cannot study abroad. Third, faced with potential "brain drain" in the form of increased competition from recognized universities and newly emerging private universities, all of which are using increasingly sophisticated marketing strategies to attract a rapidly expanding cohort of university aspirants whose families are able to fund their education, the best defense is for Hong Kong to take the offense by internationalizing its own student body.

The international character of Hong Kong's universities is underscored by the composition of its academic staff. In the past, chiefly because of shortages of qualified local applicants, Hong Kong institutions of higher learning employed a significant number of expatriates. The percentage has been reduced, but it remains prominent. This international influence in higher education continues, as shown in the country of origin of faculty. For example, in 1993-94, 33 percent of all faculty in nine tertiary institutions were registered as nonlocals. Comparable figures by institution show different degrees of internationalization (Mak and Postiglione 1997):

- HKUST—55 percent,
- HKU—51 percent,
- the Academy of Performing Arts—51 percent,
- CUHK—37 percent,
- LC—30 percent,
- CityU—28 percent,

- HKBU—22 percent,
- Open Learning Institute—22 percent, and
- PolyU—18 percent.

Despite the transfer of sovereignty, the academic profession in Hong Kong has maintained its staff, including a high proportion of international faculty. In fact, the 1997 transfer actually attracted many top-notch academics to Hong Kong, some of whom stayed longer than planned.

The meaning of “international” has changed somewhat. While it still refers mostly to expatriates from English-speaking countries like Britain, the United States, and Australia, an increase has been registered among Chinese from the People’s Republic of China, Chinese from Taiwan, and Chinese already living in Hong Kong who hold valid passports to the latter two areas. Due to the large number of overseas appointees, the academic qualifications of faculty have been rising: about 90 percent of all doctorates of Hong Kong faculty were earned overseas, usually in Australia, Canada, the United Kingdom, or the United States (Postiglione 1997 and 1998).

FUTURE TRENDS AND CONCLUDING REMARKS

Since Hong Kong became an SAR on July 1, 1997, “Hong Kong’s universities have not been greatly affected” (Postiglione 1998); Ip (1998) notes that “Hong Kong seems to be the same as before.” Despite this seemingly stagnant picture, Hong Kong is, in fact, changing—and change in education may serve as the best illustration.

ENHANCING INTERNATIONALIZATION

There is a much greater sense of commitment on the part of the new government to education as compared to the old colonial regime. In his first policy address made in October 1997, the new chief executive, Tung Chee-hwa, made education a high priority and promised to make a real change in education. Two major policy initiatives on tertiary education are key in making Hong Kong’s universities stronger. First, from 1998 to 2001, the new Hong Kong government will invest heavily in higher education so as to enable Hong Kong universities to achieve and maintain recognition as world-class researchers in the international academic community, keep pace

with rising standards, and serve the future economic and social needs of Hong Kong. During the same period, the number of nonlocal undergraduates and taught postgraduates will be doubled from 2 to 4 percent, and the ratio of nonlocal research postgraduate students in tertiary institutions will be increased substantially from one-fifth to one-third.

RAISING RESEARCH STATUS

Until recently, the primary function of tertiary institutions in Hong Kong was teaching. Research, at least from the government’s point of view, was not an important consideration. Government financial support for tertiary institutions was calculated on the basis of the costs involved in producing a graduate. As a result, Hong Kong’s research in science and technology has not kept pace with that of its regional rivals in Singapore, Taiwan, and South Korea.

This situation has changed in the past few years. The government has come to realize that support for research would be an important factor in attracting qualified academics and research postgraduate students and in making Hong Kong more competitive in the world market. The change in attitude toward research has led to the establishment of the Research Grants Council in the early 1990s, whose principal responsibility is to support individual research projects in UGC institutions. The RGC has introduced a funding model in which part of an institution’s block grant depends upon the quantity and quality of research conducted there. In addition to distributing individual research grants, the RGC has been responsible for the competitive allocation of research student numbers, again in conjunction with base numbers provided by the UGC. The general impression of the RGC, from both local and international perspectives, is that there is a flourishing and growing research culture in Hong Kong.

STRENGTHENING CONNECTIONS WITH MAINLAND CHINA

With the opening up of mainland China since the end of the 1970s, academic exchanges with mainland China had been developing rapidly. Scholars from mainland China see Hong Kong as a most useful and convenient window on the outside world; local academics value exchanges with China to facilitate their research. The Hong Kong government has gradually come to appreciate the significance of such exchanges, and the UGC has

been offering funding for them since 1988. The UGC's allocation for academic exchanges with mainland China jumped from HK\$2.5 million in 1991-92 to HK\$4.4 million in 1995-96 (Postiglione 1997).

Since Hong Kong was handed over to China, its academics are not only playing a bridging role between academics from mainland China and the rest of the world, but also extending their exchanges into many other aspects. Of these exchanges, the trend toward increased movement of students and professionals is of special significance. This role includes increasing the number of both undergraduate and postgraduate students from mainland China, recruiting more academics from mainland China who earned their doctorates at home—as well as those mainlanders who, with doctorates from the United States and other Western countries, have not returned to China—and, in the long term, supplying postgraduate labor to mainland China. However, there might be educational traffic in the reverse direction. The Hong Kong government decided in 1994 to recognize for the first time the right of university graduates from both mainland China and Taiwan to apply as civil servants; one consequence of this decision is that, in the future, increasing numbers of Hong Kong students (particularly those interested in working in government) will be going to mainland China rather than to the United Kingdom or other countries for courses in higher education. It is believed that a two-way educational traffic will be of benefit to both sides, and that the integration of Hong Kong's academics into the global community will be strengthened rather than hindered by their increased engagement with academics in mainland China.

TURNING TO THE AMERICAN MODEL

It is clear that the character of the academic profession in Hong Kong is changing in other ways as well. More doctorates are now earned in the United States than in the United Kingdom or other countries. Table 6 shows that, in addition to the large portion of U.S.-educated professors in the major universities of Hong Kong, former U.S. faculty are the deans and heads of almost all science and engineering departments and make up a large majority of the directors of HKUST research institutes.

It is of interest to note that those with higher degrees from the United States rate their training significantly higher than do those who earned higher degrees in the United Kingdom. The same holds true for the perception of faculty about the quality of training they received for research (Mak and Postiglione 1997). Rather than following the changing patterns in British higher education, Hong Kong has begun to draw more on innovations from the United States. Besides strengthening the research role of universities, other changes adopted include the introduction of a credit unit system; moving from the British 3-year model to the American 4-year model; and converting the title system from the British (lecturer, senior lecturer, reader, professor) to the American (assistant professor, associate professor, full professor) model. It is possible that the application of the American model will help Hong Kong universities continue their integration into the global community as well as improve the quality of education and standards of research.

Table 6. Leading scientists and engineers in Hong Kong's major universities by country origin, 1996

University	Total	United States	United Kingdom	Canada	Australia	Hong Kong
Hong Kong University of Science and Technology (HKUST)						
Deans/ department heads.....	15	14	0	1	0	0
Directors/ research centers.....	16	12	3	1	0	0
Chinese University of Hong Kong (CUHK)						
Full professors.....	16	6	4	3	1	2
Directors/ research centers.....	10	4	3	1	0	2

SOURCE: National Science Board, *Science and Engineering Indicators-1998*, (NSB) 98-1 (Arlington, VA: National Science Foundation).

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