Chapter 8
Language in Higher Education: Local Needs and Global Desires

8.1 Introduction

Macau is frequently described by visitors and residents alike as a city of contrasts: a place where East meets West; traditional Chinese culture survives in modern settings; quiet European medieval-style streets wind and lead into some of the world's most exciting casinos. These are just a few of the contrasts that are frequently suggested to describe Macau. These contrasts are useful in that they distil the typical experiences of the city and express those experiences into a form that will guide how visitors are likely to view the territory for the first time. And this is a very important function for a city whose GDP depends on tourism, entertainment and gaming. But these pithy characterisations of Macau also provide a glimpse of one central characteristic of the city and its culture, its pluralism. Many factors have contributed to form the pluralistic society described in this volume. Macau was offered as a place of shelter to a small group of Portuguese traders in 1553, but it very quickly grew became an international centre of Catholic activity in Asia and of European trade with India, Japan, the Malay Peninsula and, of course, China. From the earliest founding of the city local identity was formed in distinction to several other highly multilingual and multicultural societies, all of which influenced the development of local languages and educational traditions. Even the name of the city testifies to the cultural and linguistic plurality of the territory, whether you call it *Oumun* (Cantonese), *Aomen* (Putonghua), *Macao* or *Macau*, all are possible names and each has it legitimate and authentic uses within the territory.

The 1999 handover of Macau to administration as a Special Administrative Region (SAR) of the People's Republic of China has contributed a new chapter in the narrative of the city's endeavours to compose an identity that is socio-culturally and linguistically distinct from its neighbours. The Chinese city that borders Macau to the north, the Zhuhai Special Economic Zone (SEZ), is at least three times larger than Macau (Zhuhai Government 2007) and, although most of us who live in Macau tend to think of Zhuhai as an outlying suburb of the much older and more international Macau, there is good reason to consider that Macau is in fact the outlying

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suburb. On a clear day Hong Kong's Lantau island is clearly visible from Macau and transportation to that larger and more internationalised city is both quick and inexpensive. There are also numerous daily air flights to locations within the PRC or Taiwan, and these locations are some of the easiest trips to make outside of Macau. How, then, is Macau to preserve and protect its pluralistic culture and plurilingual traditions when it is surrounded by larger more powerful neighbours that neither understand nor appreciate the contrasts that have developed in the territory over the past 500 years?

Previous chapters have examined the multilingual history that predates post-handover Macau society. Recent efforts to clarify the government's role in specifying curricula for pre-primary, primary and secondary schools have prompted the government to devise policies that essentially define four spoken and three written languages as the official languages of education in Macau: Cantonese and Putonghua are two spoken varieties of Chinese, whose written variety, along with English and Portuguese (spoken and written) are each planned for within the official education policy laws. This chapter will examine how each of these languages has found a place of expression within higher education curricula in the city, and how these expressions may continue to shape the linguistic ecology of the territory.

In a post-script to Bernard Mellor's (1988) memoir of the founding of the University of East Asia, Peter Ng, the businessman who originally conceived of the university, wrote about the urgent needs facing the University of Macau:

> First, it [the Macau government] will have to re-double its efforts toward the preservation of the cultural heritage of Macau. Secondly, it will have to educate and train local people for the administration of Macau so that an orderly transition can take place and stability and prosperity of the region can be maintained... (116, ellipsis in original).
>
> …
>
> The Founder and the sponsors[1] hold the firm view that Macau being small, a university there must be capable of attracting students and faculty from the rest of East Asia and other parts of the world in order to grow, and indeed to survive: and such an institution would reflect the character of Macau itself as a multilingual and multicultural society. (117).

Ng articulates the challenges of establishing University education within a small community. Institutions must balance a response to local educational needs with the institutional need to grow through international expansion. Finding the necessary balance between locally-oriented programmes intensifies the need to find balance between local and foreign students and staff. These connections between Macau, China, South East Asia and Europe, however, have defined the multiculturalism and multilingualism of the territory and they continue to shape the mission of higher (i.e., tertiary) education in Macau as well as the languages used to deliver tertiary education.

[1] According to Mellor (1988), the 'Founder' in his volume refers to a company called Ricci Island West Ltd., which was incorporated in Hong Kong in 1975 and registered in Macau in 1980 (p. 6). The 'sponsors' refer to the three business partners who started Ricci Island West Ltd, namely Peter Ng, Edward Woo and K. K. Wong (p. 12).

8.2 Language Ecology

This volume has made extensive use of the reports of the Macau census and by-census, which are conducted every five years. The*Direcção dos Serviços de Estatística e Censos* (DSEC) 'Statistics and Census Service' documents report on residents' use of *usual language*. Although each speaker is presumed to have one (and only one) usual language, the usual language does not necessarily equate with speakers' first language, although for most people a usual language would likely also be their first language. In the report of the 2011 census DSEC introduced two new features to their reporting of languages. Previously, additional languages had been reported as multilingual abilities. For example, the census report would list the number of speakers who spoke one additional language to their usual language. The number of residents who speak Cantonese and English, for example, would be reported along with other possible combinations of two languages: Cantonese and Putonghua, English and Portuguese, etc. Older census reports would then continue, after listing these different types of bilingualism, to then report the number of individuals who could speak *two* languages in addition to the usual language in various possible combinations. Next, reports would list combinations of usual language and *three* additional languages, and usual language and *four* additional languages. The organisation of reported data and the emphasis of the census and by-census reports before 2011, therefore, was on degrees and types of multilingualism—not on the actual languages used within the territory. The 2011 census report introduced the reporting of *language ability* as the first of the two new features presented in the 2011 report (DSEC 2012). Although we no longer know how many speakers claim to speak two, three, or more languages in addition to their usual language, we now know that in 2011 485,061 individuals claimed an ability to speak Cantonese as either a usual or additional language, and that this number represents 90.0% of Macau's population at that time.[2] Similarly, we know that 113,803 (21.1%) individuals claimed an ability to speak English as either a usual or an additional language in 2011. The second feature introduced in the reporting of language ability in the 2011 census report was language ability by age groups. Because age groups are in increments of 3–4-years of age, 5–9-years of age, 10–14-years of age, etc., age groups have been taken in this volume to represent the language abilities of various groups of students: pre-primary, primary, junior secondary and senior secondary.

The age group of 20–24-year-olds will be used to represent the language ecology of university students. Unlike pre-primary, primary and secondary education, tertiary[3] education is not mandatory and the number of residents within this age group within the Macau general population is much larger than the number of university students. Whereas the description of Macau's linguistic ecology for pre-primary, primary and

[2] Actually, this represents 90.0% of Macau's population age 3 and older. Usual or additional language data for residents under the age of 3 are not reported in the census or by-census.

[3] The term *tertiary* is frequently used in Hong Kong and Macau to refer to any course of study leading to a higher degree, including, but not limited to, bachelor's degree, master's degree, MPhil, PhD, etc.

secondary students based census data was closely aligned with students enrolled in those grade levels, the description of 20–24-year-olds may not represent the ecology of enrolled university students as closely. Nevertheless, the group does illustrate the range and prevalence of linguistic competencies and proficiencies that exist within the population that Macau university students are drawn from, and analysis will suggest how this group has changed since the 1999 handover of Macau to Chinese administration. Table 8.1 lists the reported usual languages and language abilities (i.e., languages used as either a usual or additional language) for Macau residents aged 20 to 24. Within the population census DSEC defines the resident population as three groups of individuals residing in the territory at the time of the census: residents (either temporary or permanent), non-resident workers and foreign students. Needless to say, the foreign student population largely falls within this category of 20–24-year-olds.

Table 8.1 Usual Language and Total Language Ability of Tertiary-Aged Speakers, 1996–2016

	1996	2001	2006	2011		2016	
	Usual language	Usual language	Usual language	Usual language	Language ability*	Usual language	Language ability*
Chinese varieties							
Cantonese	25,344 (78.5%)	22,757 (81.6%)	36,587 (83.8%)	46,562 (86.2%)	89.9%	39,582 (81.9%)	81.5%
Putonghua	1,022 (3.2%)	1,333 (4.8%)	3,185 (7.3%)	4,438 (8.2%)	60.9%	6,493 (13.4%)	74.0%
Hokkien	–	2,632 (9.4%)	2,358 (5.4%)	2,073 (3.8%)	6.6%	–	
Other Chinese	5,908 (18.3%)	1,165 (4.2%)	1,513 (3.5%)	933 (1.7%)	6.5%	2,265 (4.8%)	14.7%
Chinese Sub-total	**32,274 (100%)**	**27,887 (100%)**	**43,643 (100%)**	**54,006 (100%)**		**48,340 (100%)**	
Chinese Languages	32,274 (96.3%)	27,887 (96.2%)	43,643 (98.1%)	54,006 (96.6%)		48,340 (91.6%)	
Portuguese	454 (1.4%)	168 (0.6%)	124 (0.3%)	192 (0.3%)	1.7%	133 (0.3%)	2.0%
English	180 (0.5%)	203 (0.7%)	322 (0.7%)	559 (1.0%)	33.1%	1,143 (2.2%)	48.1%
Tagalog	–	280 (0.9%)	415 (0.9%)	724 (1.3%)	1.3%	1,481 (2.8%)	3.7%
Other	620 (1.8%)	436 (1.5%)	473 (1.1%)	563 (1.0%)	3.7%	1,676 (3.2%)	8.1%
TOTAL	**33,528 (100%)**	**28,974 (100%)**	**44,977 (100%)**	**56,044 (100%)**		**52,773 (100%)**	

Sources DSEC (1997, 2002, 2007, 2012, 2017)
*Data about additional languages used are not reported by age group until 2011 and 2016

Cantonese is the dominant language for university-aged residents of Macau, but the proportion of Cantonese speakers has not been very stable for this group over the past 20 years. At the time of the handover the proportion of Cantonese speakers was probably hovering at about 75%. Although the number of Cantonese speakers in 2016 had increased by 56% from 25,344 in 1996 to 39,582, the proportion of Cantonese speakers within the territory did not change much, decreasing slightly from 75.6% in 1996 to 75.0% in 2016. The 56% increase in the number of Cantonese speakers from 1996 to 2016 represents an annual growth rate of 2.8%, which is the same as the average growth rate for the age group, and only slightly less than the 3.0% rate of growth for the entire population. The rate of growth for Putonghua speakers in this age group appears as one of the more dramatic demographic changes in Macau. While there were only 1,022 Putonghua speakers in 1996, this number increase by 535% to 6,493 in 2016, representing an annual growth rate of 26.8%. The number of individuals who use Putonghua as their usual language has increased at a rate that is 10 times faster than the rate of increase of Cantonese speakers.

Although Putonghua is used as a usual language by just 13.4% of the population of tertiary-aged residents, the proportion of the population claiming an ability to use Putonghua, as either a usual or additional language, increased by 14.4% from 34,142 individuals in 2011 to 39,045 in 2016. In 2016 74.0% of the population of 20–24-year-olds claimed some ability to use Putonghua, and this number is likely to increase in the future as secondary schools implement more explicit Putonghua language training within Chinese medium of instruction (CMI) education and in the Chinese second language (CSL) curricula implemented in non-CMI secondary schools. More importantly, this increase in the use of Putonghua in Macau suggests a shifting pattern away from what Li (2005) described as the use of Cantonese as a lingua franca within the territory. In 2016 there were 39,582 residents within the age group of the tertiary-aged population who claimed to use Cantonese as a usual language, but only 3,452 residents from this age group claimed to use the language as an additional language. This means that 9,739 (73.8%) of the 13,191 non-Cantonese-speaking residents in this age group use a language other than Cantonese in daily communication. Interestingly, the number of non-Cantonese speaking 20–24-year-olds is nearly the identical to the 9,352 foreign students who were in the territory during the 2016 census. Zhang (2013, 2020) reports on a study of foreign students at the University of Macau (where a large proportion of Macau's foreign students are enrolled) and their reliance on Putonghua as a lingua franca. These students are sojourners in Macau with little opportunity to remain in the territory after completing their tertiary degrees and, as such, have potentially little impact on the long-term linguistic ecology of the territory.

It was noted that for secondary school-aged residents, the number of Hokkien and other Chinese-speakers had remained relatively stable over the 20 years after the handover at about 3.0–4.2% of the population. This is not the case for the 20–24-year-olds over the past twenty years in Macau, and the decline in the proportion of speakers of other Chinese languages, including Hokkien, is graphically represented in Fig. 8.1. Hokkien is only recorded within the reports of the 2001 and 2011 censuses and the 2006 by-census. Presumably, Hokkien speakers would have been counted

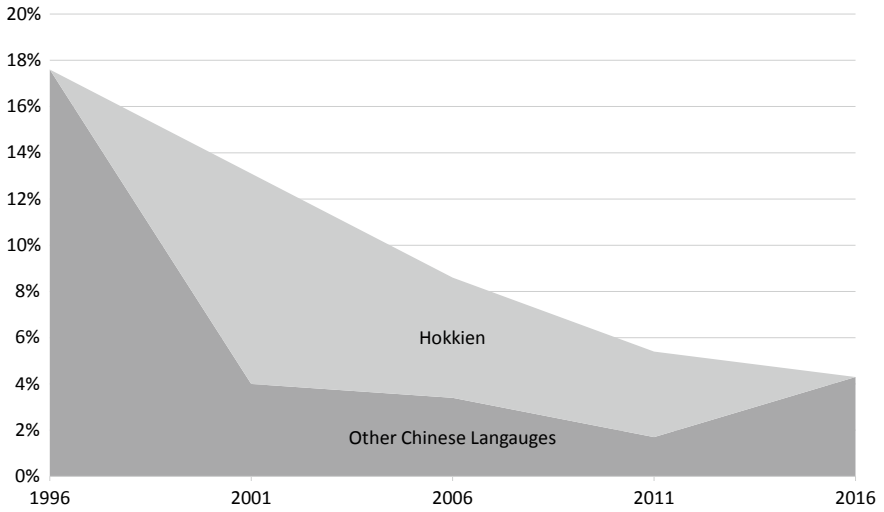

Fig. 8.1 Proportion of Tertiary-Age Population with Ability to Use Hokkien and/or Other Chinese Languages (Usual or Additional Language), 1996–2016. *Sources* DSEC (1997, 2002, 2007, 2012, 2017)

as speakers of 'other Chinese languages' in the reports of the 1996 and 2016 by-censuses. Nevertheless, the number of speakers of other Chinese languages made up 17.6% of Macau's population of 20–24-year-olds in 1996, just three years before the handover to PRC administration. That proportion began to fall dramatically and consistently over the next 20 years to just 4.3% in 2016. The decline in the number of speakers of other Chinese languages (including Hokkien) has also been just as dramatic; although there were 5,908 speakers in the age group in 1996, only 2,265 were counted in 2016, suggesting that 61.7% of the young speakers of these languages no longer spoke them. The implications of this loss to the language ecology will likely take several more years to fully understand, however, because 14.7% of the 20–24-year-olds reported that they retained an ability to speak another Chinese language in 2016. Nevertheless, when these languages are no longer used as a usual language—especially as the language used at home—they become more difficult to pass onto younger generations. The loss of Chinese variation in Macau, therefore, may be inevitable.

The proportion of the 20–24-year-olds who speak either Portuguese or English as a usual language is understandably small. Although 1.4% of young adults in this age group reported speaking Portuguese as their usual language in the 1996 by-census (three years before the 1999 handover), this number dropped relatively quickly to 0.7% in the 2001 census, and then to 0.3% in the 2006 by-census. Since 2006 the proportion of young adults who speak Portuguese as a usual language has remained relatively stable at 0.3% of the age group. However, during the 20 years since the 1999 handover the proportion of young adults who speak English as a usual language has slightly, but gradually, increased from 1.8% in 1996 to 2.2% in 2016. Changes

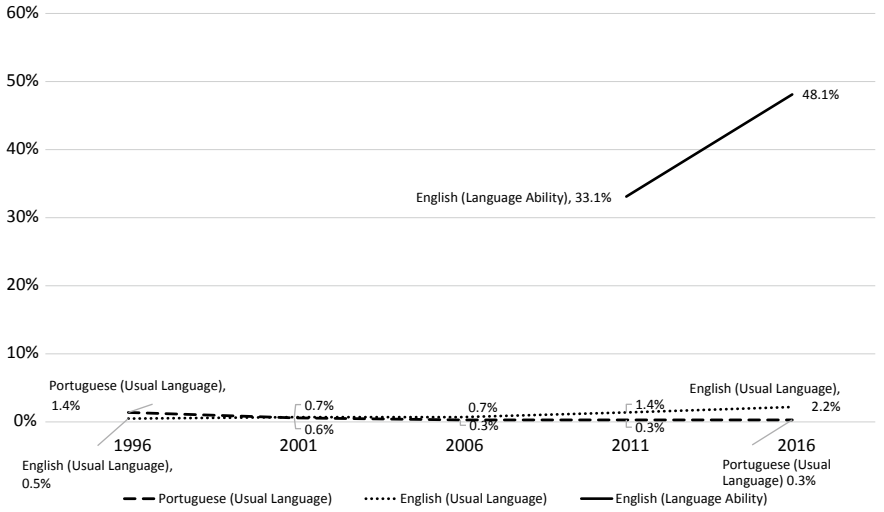

Fig. 8.2 Proportion of Tertiary-Age Population with Ability to Use English and/or Portuguese (Usual or Additional Language), 1996–2016. *Sources* DSEC (1997, 2002, 2007, 2012, 2017)

in the actual number of speakers within this age group are much more dramatic: in 1996 there were 454 Portuguese speakers (usual language) and 180 English speakers (usual language) in this age group; by 2016 the number of Portuguese speakers had shrunk to 133 (−70.7%) and the number of English speakers had grown to 1,143 (535.0%). More importantly, however, is the change in the percentage of individuals who are able to use English as an additional language. The 2016 by-census estimates that 48.1% of 20–24-year-olds are able to use English as an additional language, and that this proportion has increased from 33.1% in the 2011 census (Fig. 8.2)

8.3 Economic Development and Growth of Higher Education

It was noted in Chapter 5 that since the 1999 handover of Macau to PRC administration two notable social developments had occurred: the overall levels of education, including the number of residents with higher education degrees, have increased and the overall proportion of the population working in middle-class jobs has increased. Figure 8.3 illustrates the increase in the number of degrees from higher education within the territory between the 2011 census and the 2016 by-census. While 15.8% of the population had higher education degrees in 2011, the number of degree holders increased by 57.5% over the five-year period from 74,418 individuals holding tertiary degrees to 117,188 individuals. Overall, 22.6% of Macau's resident population held degrees of higher education in 2016.

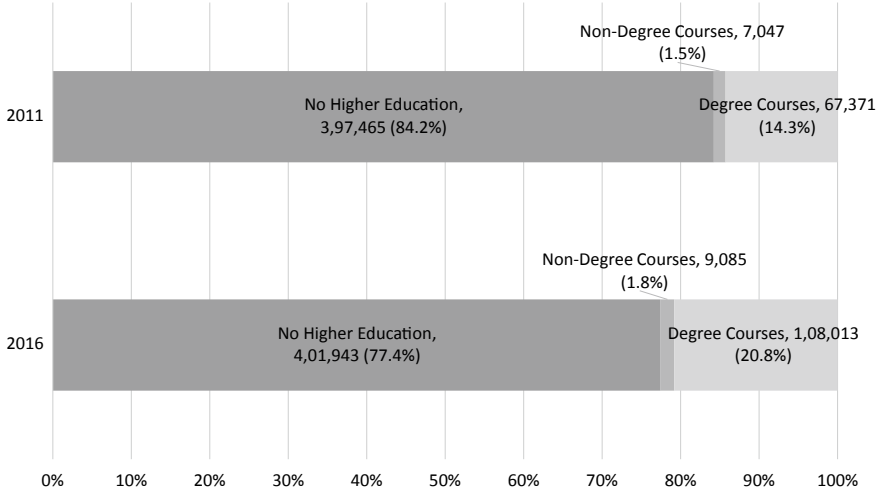

Fig. 8.3 Residents with Tertiary Education Degrees, 2011–2016. *Source* DSEC (2012, 2017)

The relationship between the growth in the number of individuals holding degrees of higher learning and the development of the middle class can be demonstrated by examining the types of jobs that tertiary degree-holding individuals have entered. Table 5.1 lists the growth of nine occupations reported over the past 15 years of censuses and by-censuses in Macau and divides these occupations into those that might traditionally be considered white-collar and blue-collar jobs. Table 8.2 lists the number of workers in each of the nine occupations who have degrees of higher education and the proportion, represented as a percentage, of all workers in the occupation. For example, in 2001 there were 4,013 holders of higher educational (i.e., tertiary) degrees employed as 'legislators, senior officials, directors or managers', and these 4,013 represented 28.8% of the total number of individuals employed within this occupation, 13, 948 (see Table 5.1 for the total figure). By 2016 the number of employees in the occupation who held a degree of higher learning had increased by 444% to 17, 807, and this represented 58.5% of the 30,435 individuals employed in this occupation (see Table 5.1 for the total figure).

In the 2016 by-census DSEC estimated that 123,047 individuals within Macau's employed population of 391,464 individuals held degrees of higher education, representing 31.4% of the employed population. While there was growth in the number of tertiary degree holders across every occupation within the survey, the gains among employees in blue-collar jobs could be considered somewhat greater than the gains among employees in white-collar jobs. Whereas the number of white-collar employees holding tertiary degrees increased by 342% from 25,404 to 112, 261, the number of blue-collar employees increased by 552% from 1,655 to 10,786. However, the overall growth of Macau's job market from 2001 to 2016 more than doubled the number of white-collar jobs; during the 15-year period white-collar jobs increased by 123% from 124,171 jobs to 276,537. The growth in blue-collar jobs, from 90,888

Table 8.2 Proportion of Employed Population Holding Degrees of Higher (i.e., Tertiary) Education in Nine Occupations, 2001–2016

	2001	2006	2011	2016
White-Collar Occupations				
Legislators, Senior Officials, Directors and Managers	28.8%	37.0%	41.3%	58.5%
Professionals	89.7%	96.4%	89.5%	92.2%
Technicians or Associate Professionals	38.5%	44.5%	52.4%	61.8%
Clerks	13.5%	17.8%	23.7%	31.8%
Service or Sales Workers	3.9%	5.9%	11.8%	19.5%
White Collar Employed Population	**20.5%**	**24.9%**	**30.5%**	**40.6%**
Blue-Collar Occupations				
Skilled Workers of Agriculture and Fishery	0.8%	0.6%	2.8%	5.3%
Craft Workers	2.1%	2.8%	5.2%	7.6%
Plant and Machine Operators	0.7%	1.1%	1.2%	4.5%
Unskilled Workers	2.5%	3.6%	6.0%	11.6%
Blue Collar Employed Population	**1.8%**	**2.7%**	**5.0%**	**9.4%**
TOTAL EMPLOYED POPULATION	**12.6%**	**16.7%**	**23.3%**	**31.4%**

Source DSEC (2002, 2007, 2012, 2017)

to 114,927, represented a much more modest increase of 26%. Furthermore, during the 15-year period 176,405 jobs were added to the economy, where 86,857 (49.2%) were white-collar jobs taken by graduates of higher education. Figure 8.4 charts the

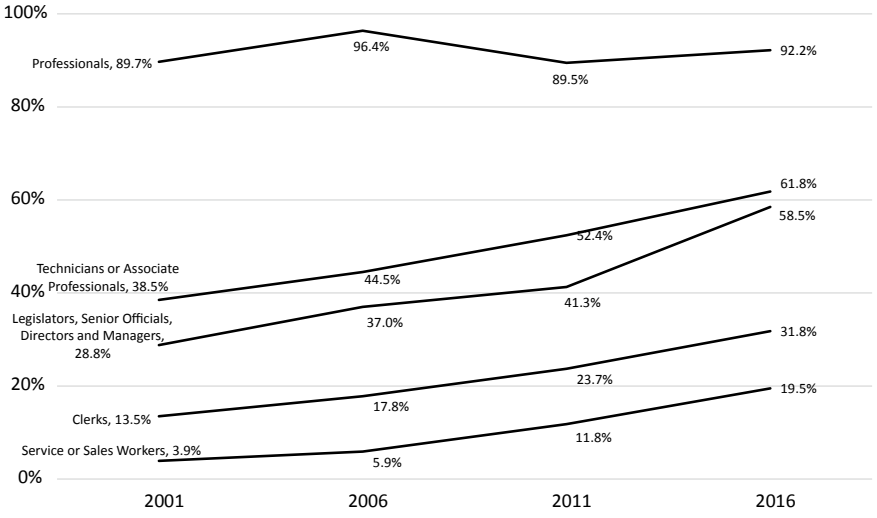

Fig. 8.4 Tertiary Education Degrees in White-Collar Jobs, 2001–2016. *Source* DSEC (2002, 2007, 2012, 2017)

growth in the proportion of individuals in white-collar jobs holding degrees of higher education. While the proportion of 'professionals' who hold degrees of higher education has remained more or less stable over the past 15 years, every other occupation has increased by at least 15.6 points ('service or sales workers') to as much as 29.7 points ('legislators, senior officials, directors and managers').

While much of the growth in residents holding degrees of higher education has come from the employment of non-resident workers, the foundation for the increase in the number of tertiary degrees has been among the permanent/temporary residents of Macau, which DSEC calls the 'local population'. Between 2011 and 2016 the local population increased by 51,763 individuals, representing a modest increase of 10.7%, or 2.1% annual growth. The number of non-resident workers, however, increased by 42,160 individuals, representing a more substantial increase of 67.7%, or 13.5% annual growth. During the same period, from 2011 to 2016, Macau hired 12,598 non-resident workers in Macau who held degrees of higher education, representing a 29.8% increase. Alternatively, the increase in the number of temporary/permanent residents holding degrees of higher education was 40,642 from 2011 to 2016, representing a 49.7% increase among temporary/permanent residents during the 5-year period. Although the rate of population growth from non-resident workers was about 6 times higher during these five years, the rate of growth of higher education degrees from the local population (i.e., temporary/permanent residents) was 167% higher than the rate of growth from non-resident workers. While growth in the resident population holding tertiary degrees has, in part, been boosted by hiring non-resident workers within several high-growth industries, the 'local population' of temporary/permanent residents is more directly responsible for the growth in the number of degrees in the territory.

Figure 8.5 illustrates what disciplines the 108,013 tertiary degrees held by Macau temporary/permanent residents are in. As might be expected, Business Administration is the most common degree, making up 30.4% of all bachelor's degrees and 31.4% of all degrees of higher education. Generally speaking, the proportion of disciplines represented by bachelor's degrees is generally reflective of the overall number of tertiary degrees. The higher proportion of degrees in Business Administration among *all* tertiary degrees (in comparison to the proportion of undergraduate degrees) suggests that post-graduate education in Business Administration is also robust. Not surprisingly, educational attainments in Education, Law and Engineering, Manufacturing and Architecture show similar robust support of post-graduate education within the territory. For example, undergraduate degrees in Education make up 5.6% of the number of undergraduate degrees and Education degrees account for 5.9% of all tertiary degrees. Likewise, undergraduate degrees in Law make up 4.2% of undergraduate degrees and the discipline accounts for 4.3% of all degrees; undergraduate degrees in Engineering, Manufacturing and Architecture make up 7.7% of undergraduate degrees and the discipline accounts for 7.8% of all degrees. The disciplines that demonstrate the greatest difference between the proportion of undergraduate versus all tertiary degrees are for two service industry-oriented disciplines: Tourism, Hotel and Catering Services and Other Services. Whereas undergraduate

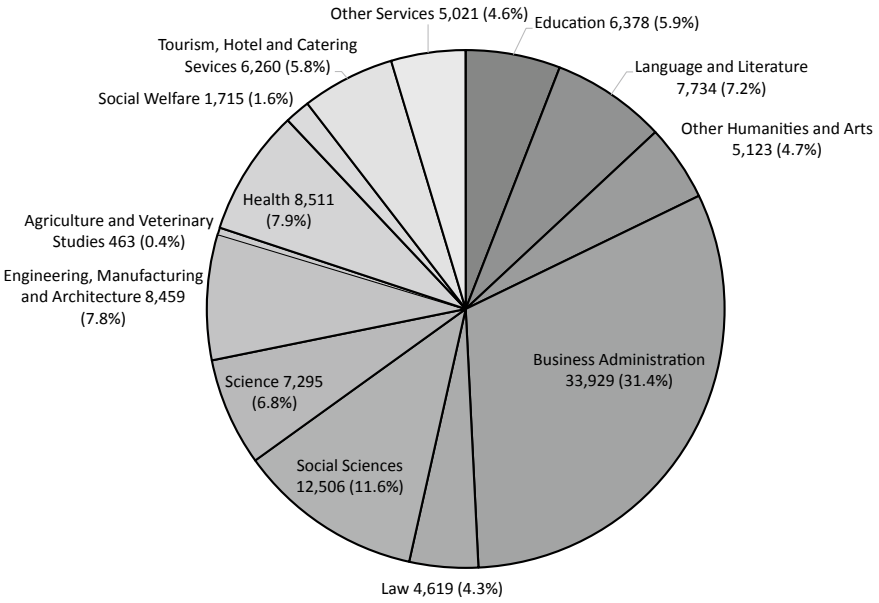

Fig. 8.5 Disciplines of All Tertiary Degrees Held by the Local Population (Temporary/Permanent Residents), 2016. *Source* DSEC (2017)

degrees in Tourism, Hotel and Catering Services account for 6.4% of undergraduate degrees, the discipline only accounts for 5.8% of all tertiary degrees within the territory. Likewise, undergraduate degrees in Other Services represent 5.1% of all undergraduate degrees, but the discipline only accounts for 4.6% of all tertiary degrees. While there are employment opportunities for graduates with undergraduate degrees in these disciplines, the support for postgraduate study within these disciplines is understandably weaker. Although the differences are not very large, they may signify the importance of recent growth in the hotel/casino integrated resort economy and the relatively new degrees that have been created to cater to those industries.

8.4 Overview of Higher Education Institutions

Degrees of higher education in Macau come from a variety of institutions and from a wide variety of locations. Figure 8.6 illustrates the distribution of where the 123,047 degrees of higher learning held within Macau's population were obtained. 24.8% of higher education degrees were obtained from institutions within the People's Republic of China, and 8.9% were obtained from institutions in Taiwan. Without doubt, however, the largest proportion of tertiary degrees, 39.5%, are obtained from institutions within Macau.

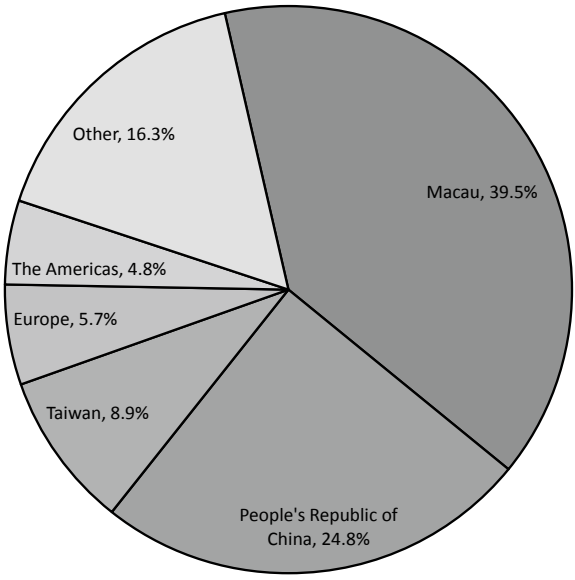

Fig. 8.6 Location of Macau's Tertiary Education Degrees, 2016. *Source* DSEC (2017)

Macau's institutions of higher learning are relatively young and none were established before 1981. The most recent published data on institutions of higher learning within Macau is available from the *Direcção dos Serviços do Ensino Superior* (DSES) 'Higher Education Bureau' (DSES 2020) and the summary of data from the 2016/2017 academic year (i.e., the most recent publication, as of mid-2020) reports that a total of 32,750 students were enrolled in tertiary programmes at 10 institutions of higher learning (DSES 2016). Table 8.3 lists the 10 tertiary institutes

Table 8.3 Institutions of Higher Learning in Macau

Year Established	Institution	Status
1981	University of Macau	Public
1988	Academy of Public Security Forces	Public
1991	Macao Polytechnic Institute	Public
1992	City University of Macau (formerly Asia International Open University [Macau])	Private
1995	Institute for Tourism Studies	Public
1996	University of Saint Joseph (formerly Inter-University Institute)	Private
1999	Kiang Wu Nursing College of Macau	Private
2000	Macau Institute of Management	Private
2000	Macau University of Science and Technology	Private
2001	Macau Millennium College	Private

Source GAES (2006), DSES (2020)

in Macau by the date of their founding and describes their status as either public (i.e., owned by the Macau government) or private.

These institutions of higher learning aim to fulfil a number of different educational goals for the territory and, increasingly, for the neighbouring region, too. Of the 32,750 students who were registered within an institution of higher learning in 2016, DSES reports that 54.7% are what they call 'local students', which DSES defines as 'holding Macao resident identity cards' (DSES 2016, p. 19).[4] These local students are essentially temporary/permanent residents of Macau and they do not require student visas in order to live and attend classes at university. The remaining 14,821 students enrolled in higher education, therefore, are 'non-local students' and require a foreign student visa to reside in Macau. The number of registered foreign students, however, is substantially higher (58.5%) than DSEC's estimation of 9,352 foreign students in Macau during the 2016 by-census. While it is possible that the by-census has inaccurately estimated the number of foreign students in Macau,[5] it seems at least equally possible that many of these non-local students would be registered (and, perhaps, paying fees) while not actually residing in Macau. Of the 14,821 non-local students in Macau, 13,949 (94.1%) are from the People's Republic of China.

Table 8.4 offers some basic descriptive statistics about the sizes of the 10 tertiary institutions within Macau, including each institution's total enrolment as well as their post-graduate and undergraduate enrolments. The two largest institutions, each with just over 10,000 students enrolled, are the publicly-owned University of Macau (UM) and the privately-owned Macau University of Science and Technology (MUST). Table 8.4 also attempts to demonstrate the degree that the various institutions of higher education are internationalised by their student body and their teaching staff. The proportion of non-local students and non-local teaching staff refer to individuals who are *not* temporary/permanent residents at the institutions. For example, 36.81% of students at the University of Macau are non-local, meaning that the remaining 63.19% of students hold temporary/permanent residency in Macau. Conversely, 75.63% of students enrolled at the Macau University of Science and Technology are non-local, meaning that only 24.37% of students are temporary/permanent residents of Macau. Likewise, 19.63% of teaching staff at the University of Macau are non-local and would be allowed to work in Macau as non-resident workers, whereas 58.4% of staff at the Macau University of Science and Technology are non-local. Non-local students and staff require government issued non-resident work permits (for staff) or foreign student visas (for students) in order to live and work in Macau. Finally, Table 8.4 also lists the percentage of teaching staff holding PhDs. This section will examine publicly available descriptions for each of the four public and the six private institutions of higher education.

[4]This definition of 'local students' would correspond to DSEC's definition of the 'local population'. Resident identity cards are only help by temporary and permanent residents.

[5]The by-census, unlike the census, is an estimate of population demographics based upon sampling of the population.

Table 8.4 Descriptive Statistics of Higher Education Institutions, 2016/2017 Academic Year

	Total enrolment	Postgraduate enrolment	Undergraduate enrolment	Non-local students	Non-local teaching staff	Teaching Staff with PhD
Public Institutions						
Academy of Public Security Forces	37	–	37	5.41%	–	–
Institute for Tourism Studies	1,576	–	1,576	16.43%	20.69%	41.05%
Macao Polytechnic Institute	3,144	–	3144	17.30%	11.79%	63.91%
University of Macau	10,029	3,479	6,550	36.81%	19.63%	85.69%
Private Institutions						
City University of Macau	5,834	1,373	4,461	39.80%	56.17%	68.34%
Kiang Wu Nursing College	297	10	287	11.11%	23.08%	40.00%
Macau Institute of Management	215	–	215	4.19%	33.33%	22.22%
Macau Millennium College	182	–	182	2.75%	57.14%	66.67%
Macau University of Science and Technology	10,373	2,772	7,601	75.63%	58.40%	59.67%
University of Saint Joseph	1,063	318	745	10.35%	11.43%	48.15%

Source DSES (2016)

8.4.1 Public Institutions of Higher Education

Macau's four public institutions of higher education are (1) Academy of Public Security Forces, (2) Institute for Tourism Studies, (3) Macao Polytechnic Institute and (4) the University of Macau. The *Escola Superior das Forças de Segurança*

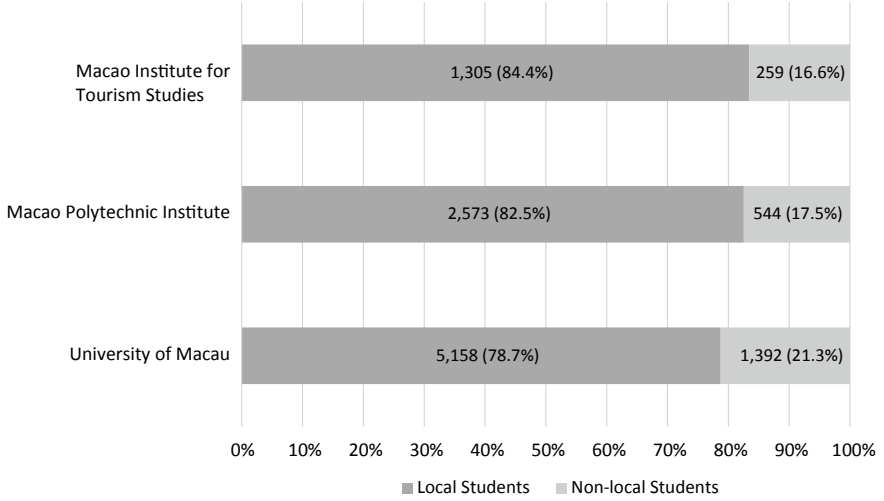

Fig. 8.7 Proportion of Local and Non-local Undergraduate Students at Three Public Tertiary Institutions, 2016/2017 Academic Year. *Source* DSES (2016)

de Macau (ESFSM) 'Academy of Public Security Forces'[6] is a public institution of higher education, but it only offers classes to members of a limited number of municipal institutions, such as the Public Security Police, Judicial Police, Marine Police, Immigration Police, etc. The training courses that it offers are not organized into degrees and admission to the institution, which is essentially a 'police academy', is not open to members of the public in the same way that other institutions of higher learning are open for applications of admission. Therefore, we will not consider this particular institution within the survey of higher education, except to note that ESFSM does provide language instruction in English to various groups of officers and these classes are usually out-sourced to institutions like the University of Macau.

The other three public institutions of higher learning are the *Instituto de Formação Turística de Macau* (IFT) 'Macao Institute for Tourism Studies', the *Instituo Politécnico de Macau* (IPM) 'Macao Polytechnic Institute' and the *Universidade de Macau* (UM) 'University of Macau'. Neither the Macao Institute for Tourism Studies nor the Macao Polytechnic Institute are comprehensive universities: they only offer bachelor-level degrees; the University of Macau is the only public institution that offers graduate-level degrees. Figure 8.7 compares the composition of the undergraduate student bodies of the three institutions. The ratio of local to non-local students at the three institutions is relatively similar, where the Macao Institute for Tourism

[6] As with all public institutions in Macau, tertiary institutions that are publicly-owned have official names in both Chinese and Portuguese. Each of the four public institutions of higher education also have English names. Acronyms can be formed from any of these names. For example, the Chinese name of the University of Macau 澳門大學 *Oumun Daaihak* (Putonghua *Aomen Daxue)* 'Macau University' is typically shortened to 澳大 *Ou Daai* (Putonghua *Ao Da).* This volume follows Macau's practice of using acronyms formed from the Portuguese name of the institution.

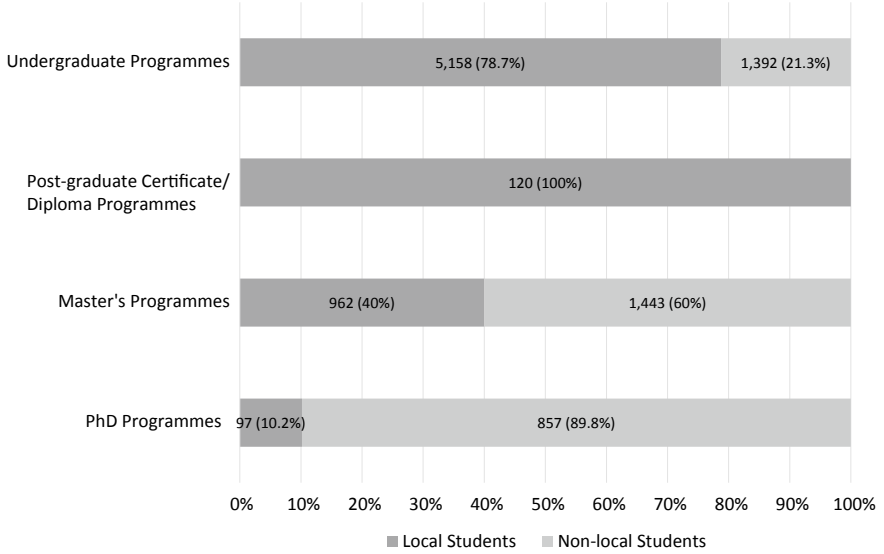

Fig. 8.8 Proportion of Local and Non-local Students at the University of Macau, 2016/2017 Academic Year. *Source* DSES (2016)

Studies and the Macao Polytechnic Institute have 84.4% and 82.5% local students respectively, and the University of Macau has 78.7% local students as undergraduates. These ratios and their similarity are not coincidental, but follow directives from the Macau government to maintain a local character of undergraduate education. This means that at the University of Macau, which has the lowest proportion of local undergraduate students among the three public institutions, we can expect that 81.5% of those local students speak Cantonese, because this is the proportion of Macau's population of 20–24-year olds who are able to speak Cantonese (see Table 8.1). That would also mean that at least 64.2% of the undergraduate student body of the University of Macau is able to speak Cantonese, and the proportion is likely as high as 75%. The restriction on the proportion of non-local undergraduate students admitted to the institutions effectively maintains the local and Cantonese-speaking character of the three institutions, especially in their programmes of undergraduate education.

These restrictions on the proportion of non-local students, however, do not apply to the University of Macau's graduate programmes, where the proportion of non-local students is much higher than in the undergraduate programmes.Figure 8.8 describes the distribution of local and non-local students enrolled in undergraduate programmes, post-graduate certificate/degree programmes,[7] and master's and PhD

[7]There are several postgraduate certificate/diploma programmes that account for the 120 local students enrolled in them. The Faculty of Law offers a Chinese and Portuguese MOI Postgraduate Diploma in 'Improvement of Legal Practice and Language', which aims to 'train up bilingual jurists in Chinese Language and in Portuguese Language' in addition to a Chinese MOI Postgraduate

programmes. Non-local students outnumber local students 2:1 in master's degree programmes and nearly 90% of PhD students are non-local students.

As was noted earlier, 94.1% of non-local students are from the People's Republic of China. The overall growth of post-graduate education at the University of Macau, therefore, has been driven not by expansion of programmes for local students; there are probably very few programmes that can effectively rely upon enrolment of local Macau students for expansion. Reliance on local enrolments for expansion of new programmes is especially risky because the pool of potential students is extremely limited within the small community and the pool can easily be affected by demographic changes in the territory (e.g., low birth rates, overseas study, etc.). Instead, the University has justified expansion of research-related graduate degrees by recruiting students from the PRC for graduate programmes. Figure 8.9 demonstrates this trend of recruiting non-local students over the past 10 academic years. While there is a general increase in the admission of non-local students in all public institutions, the University of Macau's post-graduate programmes have been the primary catalyst for this trend among public institutions.

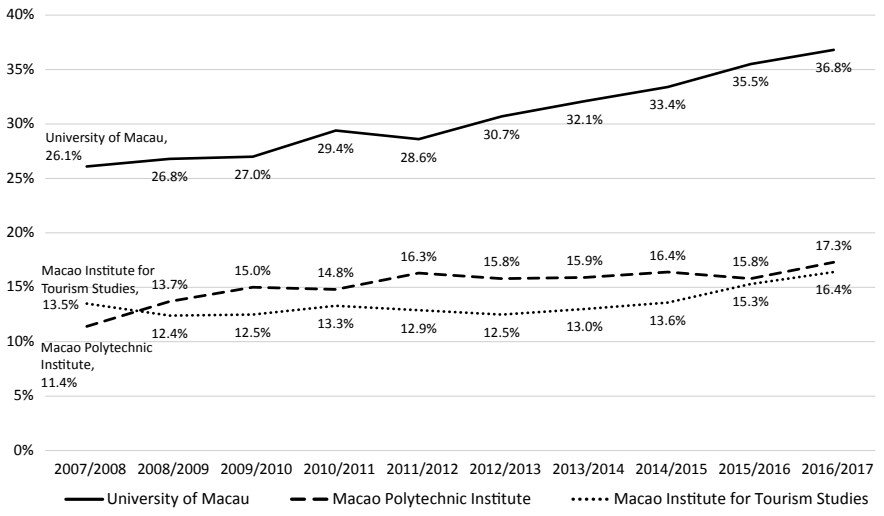

Fig. 8.9 Proportion of Non-local Students in Three Public Tertiary Institutions, 2007–2017. *Source* DSES (2016)

Diploma in 'Introduction to Macao Law', which is designed for students with law degrees in other regions (FLL 2020b). The Faculty of Education also offers a Postgraduate Certificate/Diploma for 'anyone who aspire [sic] to work in education sector' and 'in-service teachers' with specialisation in one of three areas: pre-primary, primary or secondary education (FED 2020a).

8.4.2 *Private Institutions of Higher Education*

The remaining six institutions of higher education in Macau are privately owned and generally funded by tuition fees. Three of the institutions are, by comparison, small and their educational training objectives are highly focused. The Kiang Wu Nursing College (KWNC) was founded in 1923 and is a subsidiary of the Kiang Wu Hospital Charitable Association (KWNC 2015b). The annual intake of students for their four-year Bachelor of Science in Nursing is 120, but there were only 297 students enrolled in the degree in the 2016/2017 academic year. Although KWNC offers a master's degree in Nursing, DSES reports that the 10 postgraduate students enrolled at the College were in postgraduate diploma programmes (DSES 2016). According to the entrance requirement for the BS in Nursing programme, students must 'demonstrate fluency in both written and spoken English as well as the Chinese languages' (KWNC 2015a). The Macau Institute of Management (MIM) is owned by the *Assoçiãcao de Gestão de Macau* (AGM) 'Macau Management Association', a non-profit organisation that offers training programmes related to improving management skills within the territory and a bachelor's degree in Business Administration within Macau (MIM 2014b).[8] The bachelor's degree is taught 'in Chinese, supported by Chinese and English textbooks' in five majors: accounting, banking and financial management, facility management, human resources management and management (MIM 2014a). In the 2016/2017 academic year DSES reports that MIM had 150 students enrolled in its bachelor's programme, as well as 35 students enrolled in other undergraduate programmes not leading to a bachelor's degree, namely a one-year undergraduate diploma, a two-year associate's degree and a three-year *bacharelato* programme. Finally, Macau Millennium College (MMC) offers two four-year bachelor's degrees in Hospitality Management and Commerce (majoring in Management Studies) and two-year associate's degrees in the same two areas in addition to a third area, Arts (majoring in Comparative Culture) (MMC 2020). DSES reports that in the 2016/2017 academic year MMC enrolled 126 students in the bachelor's programmes and 56 students in the associate's programmes. Although MMC does not specify a medium of instruction for the programmes, the webpages are entirely in Chinese and stress the merging of Chinese with Western business practices in their mission statement. These three tertiary institutions are all focused on undergraduate education for local Macau students. Between the three institutions, only 47 non-local students are enrolled in their undergraduate programmes, accounting for just 6.8% of the combined enrolment of the three institutions (Fig. 8.10).

The remaining three private tertiary institutions, University of Saint Joseph (USJ), City University of Macau (CityU) and Macau University of Science and Technology (MUST), offer graduate programmes to a larger number of non-local students, although in varying degrees of commitment to this model of growth. The University of Saint Joseph is the smallest of the three institutions with only 1,063 students

[8] MIM also offers a Master of Business Administration in collaboration with Chaminade University of Honolulu, but, according to DSES statistics, no students were enrolled in any postgraduate programmes in the 2016/2017 academic year (DSES 2016).

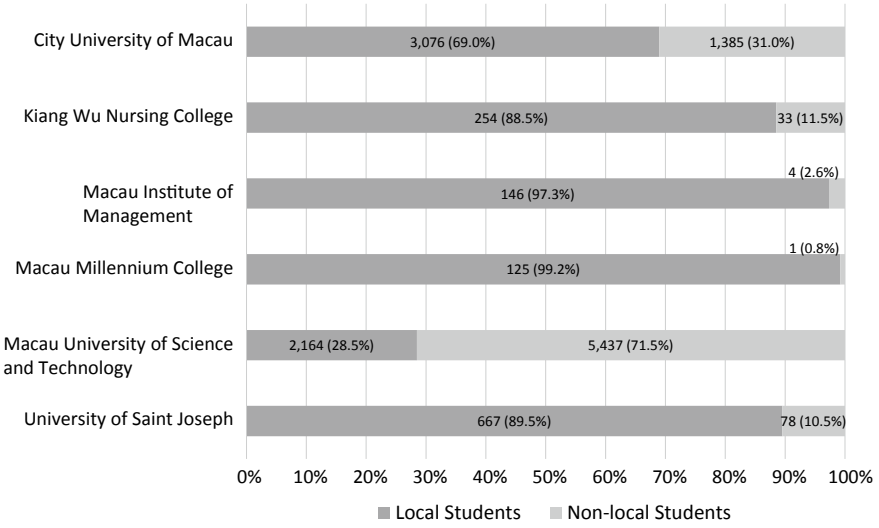

Fig. 8.10 Proportion of Local and Non-local Undergraduate Students at Six Private Tertiary Institutions, 2016/2017 Academic Year. *Source* DSES (2016)

enrolled during the 2016/2017 academic year, and there is a majority of local students within every degree offered by the University, even the PhD. Figure 8.11

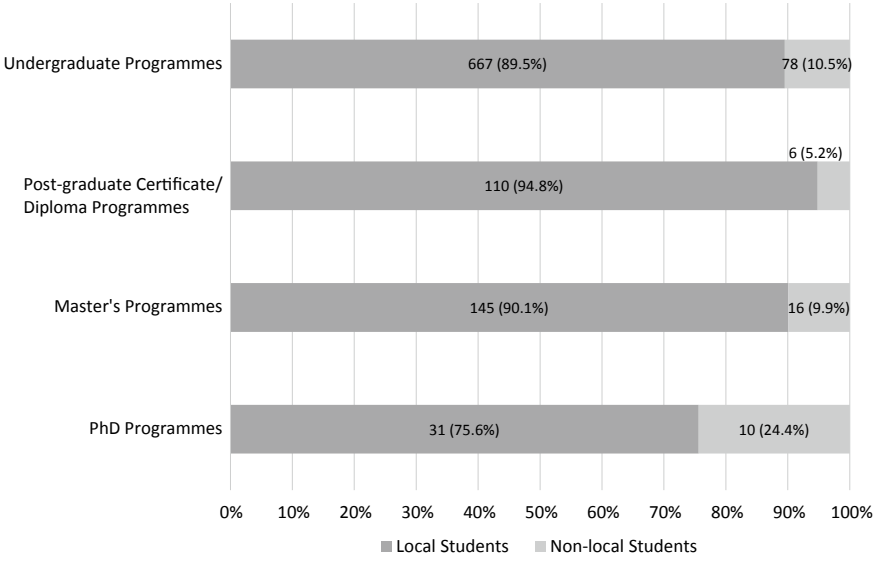

Fig. 8.11 Proportion of Local and Non-local Students at the University of Saint Joseph, 2016/2017 Academic Year. *Source* DSES (2016)

illustrates the distribution of local to non-local students at USJ, where the student body is predominantly local students. The university is a Catholic university with undergraduate degrees in Architecture, Business Administration, Christian Studies, Communication and Media, Design, Digital Cinema, Education, Environmental Science, Fashion Design, Philosophy, Portuguese-Chinese Studies (Language and Culture), Portuguese-Chinese Translation Studies, Psychology and Social Work (USJ 2020). All the degree programmes are taught in the medium of English, except for Portuguese-Chinese Studies (Language and Culture) and Portuguese-Chinese Translation; these two programmes require students to learn within all three mediums of English, Chinese and Portuguese. USJ also offers a range of master's and PhD degrees in areas very similar to the bachelor's degrees. All master's degrees are in English, except for the Master of Education, which uses either English or Chinese as MOI, and the Master of Lusophone studies in Linguistics and Literature, which uses Portuguese. PhD degrees each list three languages—English, Chinese and Portuguese—as possible instructional and research writing languages for the degree. Presumably, a PhD dissertation could be written in any one of the three languages.

The City University of Macau (CityU) is a private institution that currently occupies the former campus of the University of East Asia (UEA) and the University of Macau (CityU 2020b). The CityU website states the institution was 'formerly known as University of East Asia which was established in 1981, was renamed in 2011…' (CityU 2020a), but this is true for at least two other institutions that were formed out of the defunct UEA. The University of Macau (UM) was formed from the UEA's University College and Macau Polytechnic Institute (IPM) was formed from the UEA's Polytechnic College. UEA also had an Open University that was taken into holding by the Macau Foundation when the UEA became insolvent in 1988. The University College was reformed as the University of Macau in 1988 (UM 2015), and the Polytechnic was reformed as the Macau Polytechnic Institute (IPM) in 1991 (IPM 2020), both as publicly funded institutions. In 1988 the UEA's Open University was reformed as the East Asia Open Institute. Peter Ng, one of the UAE's founders, wrote about the purpose of the Open University at the time when it was divested from the University of East Asia:

> Its object is to complement the operations of the University by offering—through distance teaching methods—a wide range of programmes intended for the working adult, supported by weekend seminars and lectures on the University campus. It will not be, as the University is to be, subsidized by public funds: but will aim rather to give the University financial support from the revenues generated through its own programmes. (Mellor 1988, p. 118).

In 1992 the East Asia Open Institute changed its name to the Asia International Open University (Macau) (AIOUM) and ran distance learning programmes (mostly in Business Administration) for non-local students. In the first decade of the 2000s the student enrolment at AIOUM was more than 90% non-local (see Fig. 8.14). In 2010 the AIOUM was purchased by Mr Chan Meng Kam, and local businessman and leader of Macau's Hokkien-speaking community, and in 2011 the name was changed again to City University of Macau. The enrolment in 2010/2011 was 8,445 students and this was immediately reduced to 957 in the 2011/2012 academic year (DSES

2016). Although the local enrolment at CityU increased from 573 to 643 that year, the enrolment of non-local students was reduced to just 314, from 7,872 the previous year. Since 2011, CityU has begun moderately to grow its graduate programmes by recruiting more non-local students, but the undergraduate programmes have continued to enrol about 70% local students annually. The current distribution of local and non-local students at CityU is illustrated in Fig. 8.12.

CityU offers a number of different programmes in three mediums of instruction. Some degrees, like the Bachelor of International Tourism and Management (Chinese) and the Bachelor of International Tourism and Management (English), appear to be parallel degrees in two different MOI. Other programmes are exclusively in Chinese or English. CityU acknowledges that the bachelor's degree programme in Portuguese, *Curso de Licenciartura em Português* (*Norma Portuguesa*), is taught in 'Standard Portuguese' and the Bachelor of Arts in English is taught in English. It seems that courses like College English are required of all students, regardless of the MOI of the programme they enter. Likewise, some of CityU's master's and PhD programmes are offered in a choice of Chinese or English, but most are only offered in Chinese.

The largest tertiary institution in Macau is the Macau University of Science and Technology (MUST). In the 2016/2017 academic year MUST enrolled 10,373 students, which made it just slightly larger than the 10,029 students in the University of Macau (DSES 2016). According to the MUST website, however, in 2019/2020 the institution had grown by 16.8% to 12,119 students (MUST 2020). Figure 8.13 illustrates how MUST has been able to achieve growth during a time when Macau's college-aged population has been in decline: the institution has recruited students from the People's Republic of China to fill the student body in *all* undergraduate and postgraduate degrees. Consequently, the dominant popular perception within Macau

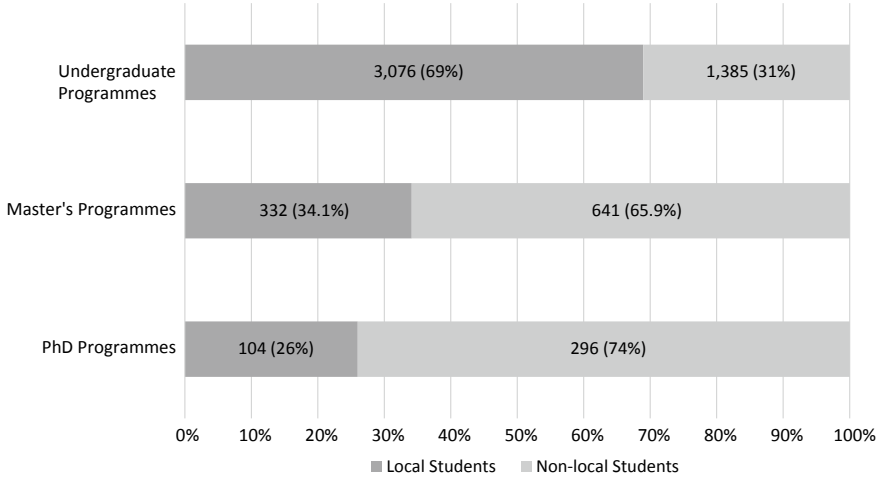

Fig. 8.12 Proportion of Local and Non-local Students at City University of Macau, 2016/2017 Academic Year. *Source* DSES (2016)

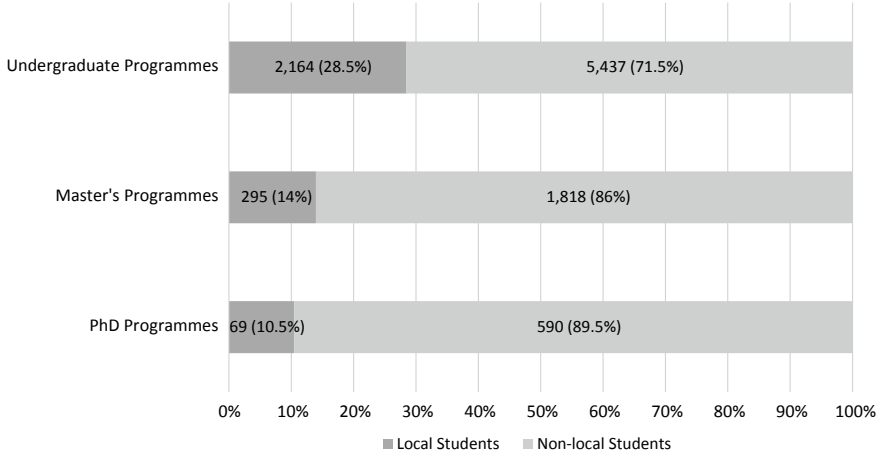

Fig. 8.13 Proportion of Local and Non-local Students at Macau University of Science and Technology, 2016/2017 Academic Year. *Source* DSES (2016)

about the character of the institution is that it is not overly concerned with local needs, interests or commitments. MUST has the highest proportion of non-local students (75.63%) and of non-local staff (58.40%) of any tertiary institutions in Macau, and it is hard to imagine that the institution would have many commitments, or even ability, to support Cantonese-language instruction within the various curricula. It in equally difficult to imagine that MUST students would share much in common linguistically with local students at other tertiary institutions in Macau. Consequently, sociolinguistic studies that have been conducted with MUST students, but then generalise results to characterise the language environment of Macau (most notably Young 2006; Botha 2013), tend to mischaracterise Macau's linguistic ecology as one that more closely resembles a university in the People's Republic of China. Indeed, since 75.63% of students and at least 50% of staff come from the PRC, the most accessible lingua franca at an institutions like MUST is Putonghua. And Botha's (2013) survey of the language used in classroom lectures supports this hypothesis that MUST does not fully teach in English, even when programmes are promoted as EMI programmes. Botha writes that 'in typical English medium classes some 70 per cent of students reported that all or most of their language exposure was to Putonghua' (Botha 2013, p. 471). While these findings from MUST are no real surprise to academics working in *public* EMI-institutions like the University of Macau, the Macao Institute for Tourism Studies or the Macao Polytechnic Institute, the findings do not reflect the attitudes or behaviours of students in institutions that maintain a strong connection to the local community. They are, instead, more reflective of the peculiar nature of MUST.

According to the online pamphlets describing each Faculty's (i.e., College's) programmes, there are only four undergraduate programmes that are offered entirely in English: two programmes in Business, one in Hospitality and Tourism

Management and one in Medicine. However, Botha (2013) examines the undergraduates in Business and Hospitality and Tourism Management to show that these programmes are, in fact, *not* delivered entirely within the medium of English. All other undergraduate programmes are listed as Chinese/English (with the exception of one programme in the International College that is offered in Chinese/English/Portuguese/Spanish). The International College also offers an MA programme that is taught in Chinese/English/Portuguese/Spanish and a PhD in Chinese/English/Portuguese, but every other MA and PhD programme—save two Chinese medium programmes in the Faculty of Law—is listed as Chinese/English. Botha's (2013) questions about EMI instruction at MUST, however, can be extended to these programmes that are listed as requiring both Chinese and English; if 70% of students in programmes that are advertised as EMI feel that most or all of the instruction is given in Putonghua, what will be the dominant MOI in programmes that are advertised as Chinese/English? Since 2011, when MUST began increasing recruitments from the PRC (see Fig. 8.14), and it seems unlikely that English is anything more than a language requirement required for matriculating into and/or graduating from a particular programme.

Figure 8.14 graphs the rates of enrolment of non-local students over the last 10 year for three private tertiary institutions, and there are three very different stories to be told about these three institutions. The University of Saint Joseph has remained the most consistently local institution with the lowest proportions (i.e., 10–11%) of non-local students. In the 2011/2012 academic year the City University of Macau 'rebranded' itself as a local institution by reducing its overall enrolment and slashing

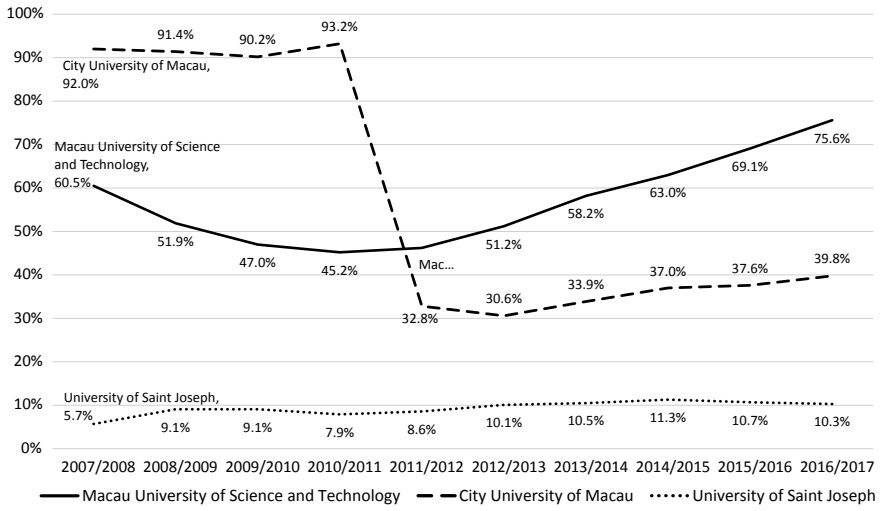

Fig. 8.14 Proportion of Non-local Students in Three Private Tertiary Institutions, 2007–2017. *Source* DSES (2016)

the proportion of non-local students from 93.2% of enrolments to 32.8%.[9] Since 2012/2013 CityU has experienced slow, but consistent growth in non-local enrolments. Finally, while MUST was able to reduce the number of non-local students to 45.2% in the 2010/2011 academic year, further growth has been fuelled almost entirely by non-local enrolments, which probably exceeded 80% of all enrolments in 2020.

8.5 Chinese in Higher Education

There is no strong tradition governing or regulating the use of Chinese in Macau tertiary education. Instead, Macau has always followed the example of Hong Kong by adopting English as the primary MOI. Recent years have seen an increasing number of classes and programmes offered in Chinese from the Macau University of Science and Technology (MUST), but, since enrolments in these programmes are dominated by non-local students from the People's Republic of China, they contribute very little to the educational needs of the local community. Public institutions in Macau use, for the most part, English as the primary medium of instruction, although there may be reason to think that the same factors that have made EMI a 'name only' activity at MUST (Botha 2013) also affects public institutions like the University of Macau. There has not been systematic study of the possible use of Chinese in programmes offered as EMI programmes at the University of Macau or other public institutions, although Gong's (2011) study of Cantonese-English code switching in EMI classes in the Department of Government and Public Administration suggests the prevalence of the phenomenon.

In addition to undergraduate Bachelor of Arts (BA) and postgraduate Master of Arts (MA) and PhD programmes in the Department of Chinese, the University of Macau offers only two undergraduate programmes taught entirely in Chinese: the Faculty of Education (FED) offers a Bachelor of Education in 'Secondary Education—Chinese' to train Chinese teachers for local secondary schools and the Faculty of Law (FLL) offers a Bachelor of Law in 'Chinese Language' to train local jurists to practice Macau law in Chinese. This particular programme in Law complements a Bachelor of Law that is conducted in Chinese and Portuguese, as well as a Bachelor of Law programme conducted entirely in Portuguese. In the same way that these FLL programmes are focused on specific community needs, FED also offers Bachelors of Education in 'Pre-Primary Education' and in 'Primary Education', two degrees in which the 'majority of courses are taught in Chinese' (FED 2020b). Furthermore,

[9] At the time that CityU changed its recruitment strategy the University of Macau had just committed itself to building and moving to a new campus in Wankam (a.k.a. Putonghua *Hengqin*) Island (see Fig. 2.1). The move left the previous UM campus—a campus originally designed for the University of East Asia—vacant and the government began accepting bids from public and private institutions, including CityU, to occupy the campus. CityU may have sought to rebrand itself as a local institution in part to fair better in the competition to occupy the old University of Macau (University of East Asia) campus.

FED also offers three undergraduate programmes that are advertised as 'Chinese and English' (i.e., Integrated Science—with specialisations in either Physics, Chemistry or Biology) and one programme in 'Secondary Education—Mathematics' that is advertised as 'English and Chinese' (FED 2020b). Finally, the Department of History within the Faculty of Arts and Humanities (FAH) offers a Bachelor of History in which 'English will be the primary language of instruction and Chinese will be supplementary' (FAH 2015). In most cases, the use of Chinese in these programmes usually means that individual courses will be taught in Cantonese, although there might be specific pressures for staff to use Putonghua, instead.

8.6 English in Higher Education

Despite the fact that there are trends and palpable pressures from various stakeholders in society to offer more programmes using Chinese as a medium of instruction at the University of Macau, the fact remains that English is an entry requirement for every academic programme. Furthermore, English is a required course within the general education programme, where most courses are also offered in English. It is, therefore, very difficult (and perhaps impossible) to find an academic programme at the University of Macau (or any public tertiary institution, for that matter) that does not claim to use English in some form or another. And all PhD and master's programmes, with the exception of language programmes in the Department of Chinese or the Department of Portuguese, are conducted with coursework in English and require students to present research (usually in the form of a thesis or dissertation) written in English. This is not only an enduring tradition in tertiary education within the region, but it is frequently taken as one of the quality standards that Macau applies to distinguish degrees granted by institutions in Hong Kong and Macau (and sometimes, Taiwan) from those granted in the People's Republic of China. In their examination of code switching behaviours apparent in the EMI classrooms at the University of Macau, Gong (2011) finds evidence in the attitudes expressed about the code switching that Macau teachers and students value a strong commitment to EMI without the use of other languages. Bolton (2003) has written extensively on the early importance of English in institutions of higher learning in China, and how these traditions came to find refuge and eventually thrive in Hong Kong. In Macau, the tradition of English-language higher education was inherited more directly from Hong Kong. This section will examine how English medium of instruction was introduced in Macau tertiary institutions in the twentieth century and how this tradition responds to challenges in more recent years.

8.6.1 *University of East Asia (UEA) and the Origins of EMI Higher Education*

The University of East Asia (UEA) was founded in Macau in 1981 by a group of Hong Kong businessmen. The idea for a university in Macau grew out of the need for more institutions of higher learning in Hong Kong. In the 1970s and in much of the 1980s in Hong Kong and Macau there were only two universities—Hong Kong University (HKU) and later Chinese University of Hong Kong (CUHK)—that could offer higher degrees, despite an increasing demand for more opportunities for higher education. One of the three original founders of the university, Peter Ng Yuk-lun, had proposed to build a private university in Taipo, New Territories, Hong Kong, but the proposal was abandoned when it did not receive support from the Hong Kong government. The founding of a private university to confer degrees in Hong Kong in the 1970s, as it does today, required government approval, and Mr Ng's proposal failed to obtain that approval. However, in the late 1970s the Macau government, not surprisingly, had no regulation that would prohibit opening a new university within the territory. Together with two other businessmen, Edward Woo Pak-hay and Peter Wong King-keung, the three businessmen formed an engineering/land reclamation company called Ricci Island West Ltd. and in 1978 submitted to the Macau government a proposal to establish the University of East Asia. The original proposal was to reclaim the land between the two islands of Taipa and Coloane and build an industrial park. Profit from the development project would then be invested into building and financing the proposed university. The Macau government enthusiastically endorsed the formation of a university, but withheld approval of the reclamation project for further study. The initial motivation in the founding of the UEA, therefore, was to build a profitable business and meet Hong Kong needs for higher degrees. The plans to build the industrial park were never realised and the land between Taipa and Coloane was not reclaimed until *after* the 1999 handover of Macau. That reclaimed area is currently called the 'Cotai Strip' (named by combining the 'Co' of *Coloane* and the 'Tai' of *Taipa*) and has been under constant development since 2003 as a hub of casinos and integrated resorts at a price tag of more than US$ 13 billion.

The University of East Asia opened in 1981 with the initial goal of offering Hong Kong residents another avenue for obtaining higher degrees. The founding of the university also followed the end of the People's Republic of China's Cultural Revolution and the formal 'opening up' policy of trade and cultural/educational exchange that had been established in China just two years earlier in 1979. In his description of the early days of the University of East Asia, the founding chief administrator Bernard Mellor (1988) writes about the original drive to establish the university:

> The objective of the project was to offer university places to qualified overseas Chinese wishing to study in an environment where Chinese cultural tradition has continued to develop in close contact with the mainland, a tradition especially relevant to the official trading policies of the People's Republic of China (PRC). (Mellor 1988, p. 1).

The UEA had, in short, sought to capitalise on the growing interest in China, especially among the ethnic Chinese who were living outside of China.

Consequently, in setting up the university the founding businessmen looked to university models in Hong Kong, Malaysia, Singapore, The Philippines, Indonesia and Thailand for guidance. While it was assumed that the student body would primarily be made up of Hong Kong and Macau students, students and teachers from South and South East Asia were also expected to form part of the university community. These expectations had a significant impact upon the choice of a medium of instruction. The choice of English was never questioned from even the earliest planning stages of the university:

> It was the sponsors' [the three founding investors and their director] expressed intention that the language of instruction was to be English and the enrolment not drawn solely from Macau but also from Hong Kong and elsewhere in South and South East Asia. This implied in its turn that the minimum level of entry would approximate to that of the English-medium universities of the region. That is, adequate passes would be expected in those examinations that were set on well-understood advanced level syllabuses, after seven years of secondary studies, by reputed bodies such as those in Hong Kong and Britain, and which were widely respected throughout the English-speaking world. (Mellor 1988, p. 15).

Like many of the private tertiary institutions in Macau today, the UEA was not founded with the primary goal of meeting local Macau educational needs, or developing local talent. Instead, the institution was focused on needs from outside the territory to meet the immediate perceived educational needs of Hong Kong and ethnic Chinese communities in South East Asia.

These early designs of tertiary education at the UEA focussed on educational traditions that had developed in British Hong Kong and other formerly British colonies like Malaysia and Singapore. Entrance examinations and curricula assumed that students had studied an A-level syllabus in preparation, but this put local Macau students who had not had seven years of secondary education at a distinct disadvantage. In fact, many local schools in the early 1980s only offered five years of secondary instruction. In order to solve this problem, the University of East Asia also formed a junior college to offer one or two years of post-secondary English-medium instruction. The junior college, as such, was closed with the UEA's bankruptcy in 1988, but the mission of improving students' basic skills was transferred to the University of Macau's Centre for Pre-University Studies (CPU) for many years. Table 8.5 lists the number of students enrolled in the Junior College by their national origin. Although the number of students enrolled was few, the college was dominated by students from Macau and the institution had the effect of normalising the expectations for senior secondary education throughout the territory. Once senior secondary education was made free and compulsory in 2006, UM's Centre for Pre-University Studies was dissolved.

Mellor (1988) also notes that when the UEA was founded, 'Portuguese was to the third working language, and an Institute of Portuguese Studies was to be set up though not necessarily at the outset' (11). The choice of English as the medium of instruction at the founding of UEA, then, was a response to traditions of English-medium higher education in Hong Kong and other South East Asian universities. Written near the

Table 8.5 Enrolment in the UEA's Junior College by Origin of Students, 1981–1987

	1981/1982	1982/1983	1983/1984	1984/1985	1985/1986	1986/1987
Macau	62 (54.9%)	90 (47.4%)	58 (48.3%)	103 (48.6%)	193 (46.4%)	245 (51.1%)
Hong Kong	48 (42.5%)	99 (52.1%)	62 (51.7%)	104 (49.1%)	157 (37.7%)	152 (31.7%)
China	–	–	–	–	55 (13.2%)	56 (11.7%)
Malaysia	–	–	–	–	–	–
Other	3 (2.7%)	1 (0.5%)	–	5 (2.4%)	11 (2.6%)	26 (5.4%)
TOTAL	**113 (100%)**	**190 (100%)**	**120 (100%)**	**212 (100%)**	**416 (100%)**	**479 (100%)**

Source Mellor (1988)

end of the UEA's existence as a private institution, Mellor (1988) predicted that Chinese medium of instruction would become increasingly popular within Macau and the Pearl River Delta region, but that instruction in English would not entirely disappear. Citing the spirit within which the University was founded he stated that, 'the objective will continue to be a special, bilingual society. It is unlikely that Macau will succeed in following that pattern with Portuguese substituted for English' (101).

Bray (2001) notes that in the 1982/1983 academic year 'Macau students formed only 11.7 per cent of the total students at the UEA, and the proportion fell to 6.6 per cent before rising again to 10.9 per cent in 1986/1987′ (145). Enrolment figures for all colleges at the UEA (including the University College, Polytechnic Institute, Open College and Junior College), which are originally compiled by Mellor (1988) and cited by Bray (2001), are listed in Table 8.6. Although Bray's observation is essentially correct, that the proportion of students from Macau fluctuated with an eventual decline over the six year of operation, it should also be noted that the

Table 8.6 Total Enrolment in UEA Colleges by Origin of Students, 1981–1987

	1981/1982	**1982/1983**	**1983/1984**	**1984/1985**	**1985/1986**	**1986/1987**
Macau	67 (41.9%)	177 (11.8%)	316 (6.6%)	419 (8.5%)	585 (9.7%)	724 (10.7%)
Hong Kong	87 (54.4%)	702 (46.6%)	4,472 (93.0%)	4,409 (89.5%)	4,227 (70.1%)	5,071 (74.7%)
China	–	–	–	–	1,025 (17.0%)	776 (11.4%)
Malaysia	1 (0.6%)	3 (0.2%)	4 (0.1%)	72 (1.5%)	132 (2.2%)	133 (2.0%)
Other	5 (3.1%)	623 (41.4%)	18 (0.4%)	27 (0.5%)	57 (0.9%)	82 (1.2%)
TOTAL	**160 (100%)**	**1,505 (100%)**	**4,810 (100%)**	**4,927 (100%)**	**6,026 (100%)**	**6,804 (100%)**

Source Bray (2001), Mellor (1988)

enrolment figures for Macau students increased steadily during the six years that the UEA operated. The apparent decline in the *proportion* of Macau students enrolled in the UEA is probably more closely related to the increased number of students from Hong Kong. It is also important to note that, when the first students from China began to attend the UEA, they made up more than 17% of the student body. 'Other' locations that students arrived from to study at the UEA, according to Bray (2001) included Burma, India, Indonesia, Japan, Pakistan, Peru, Portugal, Singapore, Thailand, the United Kingdom and the United States. However, foreign students from these locations never formed a significant proportion of the student body except in the 1982/1983 academic year when they accounted for 41.4% of students. In the following year the number of students from 'other' places fell from 623 to 18 (2.9%) and never again rose to more than 82 in the final year of operation.

The success of the University of East Asia as a local Macau institution should be measured in two ways. First, the Junior College was extremely popular and provided local students with a chance to enhance their education within a more internationally-structured English-medium curriculum. Students finishing this programme, whether they matriculated into the UEA's University College or went abroad for their tertiary education, would find themselves better prepared with an internationally-oriented English medium of instruction education than what they might have received from high schools that were more closely aligned with the interests of educational systems in neighbouring regions. Second, the UEA demonstrated that a university in Macau could conceivably sustain growth by providing international education to students in South and South East Asia, but, more particularly, that potential for growth would especially come from China.

In 1988 the University of East Asia was no longer able to continue operations because of financial difficulties and the Macau government purchased the institution (through the mediating institution of the Macau Foundation) without interrupting its operation. At the time that the UEA closed, it was offering undergraduate degrees in Arts, Social Science, Business Administration and Science. As Table 8.7 demonstrates, degrees in Business Administration and Arts were the most highly enrolled

Table 8.7 Degrees Awarded by the University of East Asia

	1984	**1985**	**1986**
First Degrees			
Bachelor of Arts	4	4	47
Bachelor of Social Science	21	11	10
Bachelor of Business Administration	25	46	67
Bachelor of Science	–	–	14
TOTAL	**50**	**61**	**138**
Higher Degrees			
Master of Business Administration	–	16	154

Source Mellor (1988)

programmes. Two new programmes were immediately developed in line with the UEA becoming a publicly administered institution: Law and Public Administration. Similarly, the School of Education was formally established in 1989 and the Department of Portuguese was launched in 1990. The early 1990s was a time when the Portuguese colonial government felt that Portuguese should be more widely used in education and some authors have suggested that the Macau government could have used the university as a means of strengthening the presence of the Portuguese language in Macau (see Bray 2001; Hui 1998). Ultimately, however, this objective was instead more effectively accomplished by retaining the institutionalised preference for Portuguese as a language of the courts and the civil service. Mellor (1988) specifically notes that during the transition of the UEA from private to public ownership, 'no objection was raised to the retention of English as the University's principal language of instruction' (p. 111).

It should also be noted that during this transitional phase from a private to a public institution a Centre for Translation and Interpretation was established within the University. The Centre and the UEA's Polytechnic institute were formally separated from the University of Macau in 1991 to form the Macao Polytechnic Institute. Mellor (1988) comments on the original intented purpose of the centre:

> Particular emphasis would be placed on the requirements of the transitional period to 1999—that is, on translation between Portuguese and Chinese, though certainly English and probably Japanese would provide alternative additional languages. (107).

Presumably, there are two factors that made Portuguese/Chinese translation an important need in the community. First, Chinese was made an official language of the territory in 1991 and, while the need for translation was certainly felt before that date, the *de jure* status of Chinese as an official language gave immediate urgency to that need. Second, the impending handover of Macau made a complete Chinese translation of the legal code an urgent necessity. Mellor's comments suggest that the role of translation within the university might have included work with English, but that translation between Chinese and English would not to be one of the primary objectives of the Centre, presumably because the university community—what Mellor (1988, p. 101) earlier describes as a 'special, bilingual society'—would not feel that translation was a necessary part of the University culture.

8.6.2 University of Macau

In 1991 the institutional name of the University of East Asia was changed to the current name, the University of Macau.[10] At this time, the degree structure was shifted from a three-year to a four-year degree programme. Hui (1998) has suggested that this change was made in order to 'facilitate the recognition of the degree by

[10] As with all schools and public institutions in Macau, the University of Macau also has Chinese and Portuguese names: 澳門大學 *Oumun Daaihok* (Putonghua *Aomen Daxue*) and *Universidade de Macau.*

Table 8.8 Registered Students in 2019/2020 Academic Year in University of Macau Degree Programmes

Degree Programme	Number of Students Enrolled
PhD	1,202 (11.1%)
Master	2,220 (20.5%)
Postgraduate Certificate/Diploma	64 (0.6%)
Bachelor	7,358 (67.9%)
TOTAL	**10,844**

Source UM (2020)

Portuguese and local authorities' (Hui, 1998, 264, quoting from University of Macau internal documents) and argues somewhat unconvincingly that this was done to create 'a Portuguese academic structure for perpetuation of cultural influence as well as maintaining the Macanese interests by providing them a channel to work in Portugal after 1999' (269). The four-year degree programme structure currently matches the university degree structure in China, Taiwan and Hong Kong (where the degree-structure was also changed to a four-year programme, although there seems to have been no influence from Portugal to make this change in Hong Kong). Instead, it seems more likely that the change was motivated by once again looking to nearby neighbouring regions for educational models. Hui's criticisms of the change are also inconsistent with the retention of the three-year degree at the University of Macau. This degree, a *bacharelato*, was only offered in the Portuguese-language programme and it seems unlikely that concerns about the teaching of the Portuguese language would have ended the 3-year degree simply to retain a form of it in the department in which it was argued to be most inappropriate. In fact, the *bacharelato* degree is only recognised in Portugal. This degree was offered for a number of years until it was discontinued in 2006.

Currently, there are over 10,000 students enrolled during the 2019/2020 academic year at the University of Macau. Table 8.8 lists the current 2019/2020 academic year enrolments distributed across four different types of programmes: Bachelor, Postgraduate Certificate/Diploma, Master and PhD. With the exception of the three programmes already mentioned (i.e., two undergraduate programmes in Law and Education conducted in Chinese and one programme in Law conducted in Portuguese), all other undergraduate and graduate programmes purport to use English as the primary medium of instruction, although there might be some individual teachers who choose to use Cantonese or Putonghua as a supplementary MOI. However, because 78.7% of undergraduates are local students, 81.9% of whom speak Cantonese as their usual language, the choice of a supplementary Chinese medium of instruction is not entirely easy or straightforward. Putonghua is preferred by non-local students and teaching staff, especially by those who are from the PRC, where Putonghua is normally used as a lingua franca. But only 74% of local students report an ability to use Putonghua. While 80% of students would be able to follow a supplementary class lesson in Putonghua, a sizable 20% would not. In addition, DSES notes that only 19.6% of UM teaching staff are non-local. The remaining

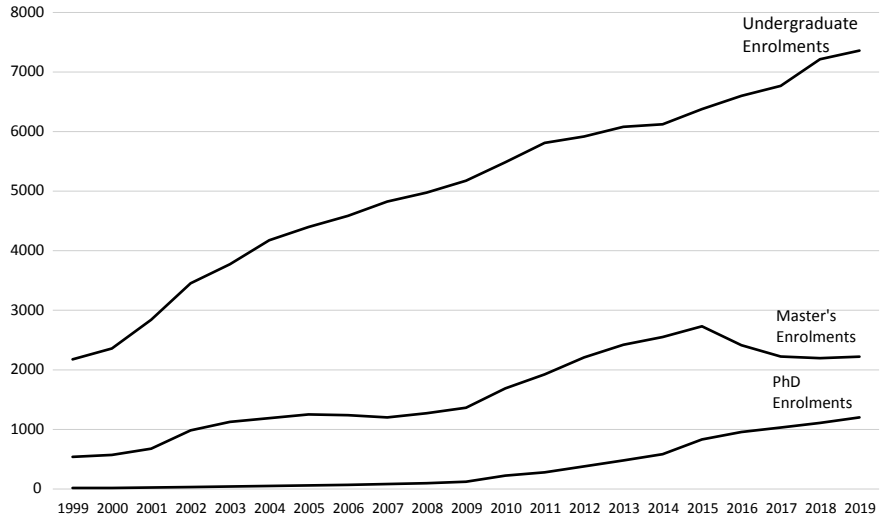

Fig. 8.15 University of Macau Enrolments, 2009/2010–2019/2020 Academic Years. *Source* UM (2006, 2020)

80.4% of teaching staff, therefore, are local Macau temporary/permanent residents (i.e., *not* non-resident workers). Although some teaching staff, especially those who are originally from China, may feel that a lesson recap in Putonghua is useful, local teaching staff would normally see this as unnecessary and instead reflective of teaching and learning traditions in China. There is, therefore, some internal pressure among teaching staff to preserve English as the medium of instruction at the University of Macau, especially in undergraduate programmes.

The University of Macau's growth has been consistent over the last twenty years since the 1999 handover of the territory to Chinese administration, as demonstrated in Fig. 8.15. Undergraduate enrolments have increased by 238.0% for an average annual growth of 11.9%. Master's degree enrolments have increased by 311.9% over the past 20 years with an annual growth rate of 15.6%. The highest enrolment in master's degree programmes was 2730 in the 2015/2016 academic year. Since the 2015/2016 academic year master's degree enrolments have dropped to 2,220 students in 2019/2020. Enrolments in PhD programmes, however, have been the most aggressively pursued in the past 20 years by the University of Macau. In 1999/2000 there were only 18 students enrolled in PhD programmes at the University of Macau, and in 2019/2020 there were 1202 students enrolled, representing a 6577.8% increase and an annual growth rate of 328.9%. The 2009/2010 academic year was the first year that more than 100 PhD students were enrolled in UM programmes. In the ten years since, enrolments have increased by 877.2% for an average annual growth rate of 87.7%. With the increasing number of PhD students, most of whom are from the People's Republic of China, as well as an increasing number of research staff who are also recruited from the PRC, there has been pressure to establish PhD programmes

that use the medium of Chinese and allow students to write in Chinese. To date, however, the University has refrained from allowing PhD dissertations to be written in any language other than English, except, of course, when the PhD is in the subject of a language other than English (e.g., dissertations for the PhD in Chinese may be written either in Chinese or English and dissertations for the PhD in Portuguese may be written in either Portuguese or English).

There have been few studies of language attitudes and the relationship to MOI issues within Macau institutions of higher education, however, Kuok (2006) conducted a needs analysis of perceived language needs within the University of Macau's Civil Engineering programme. While the group that was examined within the study is small, it is representative of the University as a whole and Kuok suggested of some of the ways that English is used as the medium of instruction. For example, when asked about the frequency of English-use within the Civil Engineering programme, teachers answered that it is used 100% of the time in 'reading textbooks, handouts, reference materials, etc.' (Kuok 2006, p. 88). However, the least frequent use of English was found in 'watch [sic] technical videos' where English was thought to account for less than 10% of this activity (Kuok, 2006: 129). When asked directly about class-room practice, the 13 content teachers surveyed in the study responded that they sometimes used Cantonese or Putonghua in their lectures to explain content, but none responded 'almost always' (the highest rating) and two responded that they 'never' used a language other than English (Kuok, 2006: 82). Among the comments that were of interest within the programme, only one student complained of a 'lack of translation' skills being taught within the programme (Kuok, 2006: 123); the majority of students instead felt that they would prefer to learn engineering without translation into Chinese, which suggests that Mellor's (1988, p. 101) observation that the goal of educating and creating a 'special bilingual society' may still be motivating the priviledged use of English as an MOI in higher education.

8.7 Portuguese in Higher Education

Only a few programmes are offered within the medium of Portuguese at Macau tertiary institutions, and most of these are post-graduate degrees designed for either foreign students from Portuguese-speaking countries or for teachers and translators to up-grade their language skills. One exception is the University of Macau's Bachelor of Law programme in Portuguese Language (FLL 2020a). Because of the additional demand on students' language proficiency in Portuguese, the programme is a five-year programme that normally sends students to study in Portugal for one year in order to qualify for completion of the programme. Because this programme relies upon advanced proficiency in the Portuguese language, it is difficult to recruit local students with sufficient proficiency in the language.

While PMI education is not very common within any institution of higher learning in Macau, Portuguese language courses are some of the most popular of any course at the University of Macau (Botha & Moody 2020). Figure 8.16 shows the student

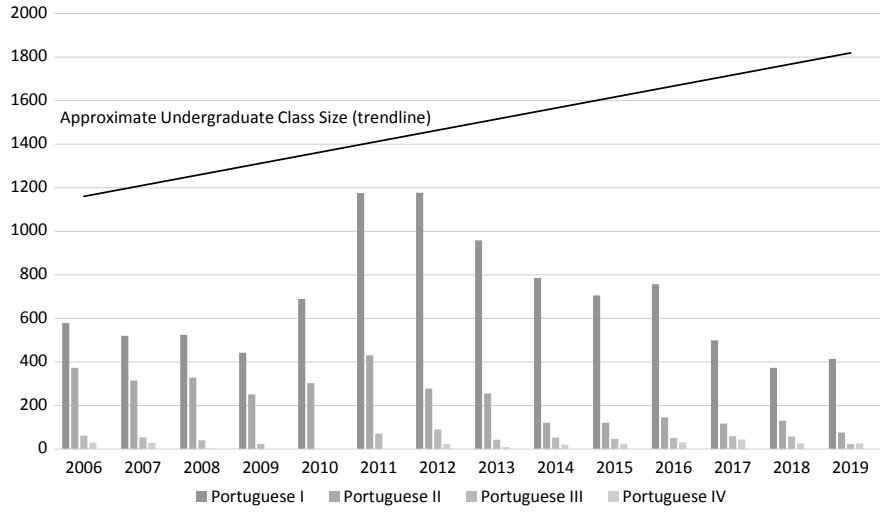

Fig. 8.16 Enrolment in Non-Major (Elective) Portuguese Classes, University of Macau, 2006/2007–2019/2020 Academic Years. *Source* Department of Portuguese, University of Macau

enrolment in four Portuguese classes offered as electives to students who are not majoring in the language: Portuguese I–IV. Each course is one semester long and the enrolments reported here are totals for the academic year, aggregating Fall and Spring enrolments for each year. In addition, a trendline is included showing one-quarter of the UM undergraduate enrolment for each year. This figure of one-quarter is more relevant than the total undergraduate enrolment because it represents the number of students within a class that enters any particular year for their four-year degree. Several things are interesting about the distribution of students in these Portuguese-language classes. First, the number of students who continue to take Portuguese II (i.e., the second semester) after Portuguese I reduced dramatically from 2006/2007 to 2019/2020. In 2006/2007, 373 (64.4%) of the 579 students who took Portuguese I continued on to take Portuguese II. In 2019/2020 only 76 (18.5%) of the 414 students enrolled in Portuguese I continued on to take Portuguese II. Enrolment rates in Portuguese III and IV are similarly low and never climb out of double-digit enrolment. In fact, in 2010, no students enrolled in Portuguese III or IV. Second, Portuguese I was most popular in the 2011/2012 and 2012/2013 academic years. Respective enrolments in Portuguese I in those two years were 1,176 and 1,177 students annually and total undergraduate enrolment was 5,811 and 5,916. Since one class of students during that time would be approximately 25.0% of the total undergraduate enrolment, class sizes in 2011/2012 and 2012/2013 were 1,453 and 1,479 respectively. This means that approximately 80% of undergraduate students took Portuguese I during those two academic years. Revisions to the University's General Education programme have removed many of the elective credits that undergraduate students would spend on Portuguese-language programmes, but the high-water

mark of undergraduate Portuguese-language education demonstrates how popular these languages courses can be when undergraduate students are given the freedom to choose them.

8.8 Conclusion

Unlike the PPP and secondary educational levels, English dominates in tertiary education as both a medium of instruction and as a subject language. The three public institutions of higher learning, the Macao Institute for Tourism Studies (IFT), the Macao Polytechnic Institute (IPM) and the University of Macau (UM), are committed (at least in public statements, if not in actions) to offering education within the medium of English. As these institutions are predominantly established for the education of local residents and answer to public bodies that control their funding, the ensconced policy of EMI tertiary education is embraced by the local Macau community as the preferred language of higher education. Nevertheless, EMI tertiary education poses challenges to the linguistic ecology of the territory. Only 16.3% of secondary students graduate from EMI schools in Macau, and many of them travel abroad for their university education. This means that the majority of students at Macau tertiary institutions are studying through the medium of English for the first time. Preparation for EMI tertiary education in local high schools, therefore, is crucial to ensure that matriculating students have the required proficiency in English. Although, the tradition of EMI tertiary education is firmly rooted within the history and sociocultural experience of the community and local educators and students alike share a deep connection to the use of English in higher learning, challenges related to underprepared students' proficiency are daunting. Nevertheless, there is evidence that students and teachers alike hold strongly positive attitudes toward the use of English as a tertiary EMI and it seems unlikely that, despite pressures from competing private institutions, the public tertiary institutions will move away from EMI.

While most private tertiary institutions are also committed to educating local students, the two largest institutions have adopted growth strategies that do not respond especially to local educational needs or concerns. Because private institutions are not obliged to offer seats to local Macau students, the Macau University of Science and Technology (MUST) admits only a few local students each year. Instead, private institutions are free to recruit students from anywhere with very few, if any, restrictions. Many private institutions in Macau have remained committed to the education of local residents and, consequently, remain as relatively small institutions. MUST, however, has pursued a different model of growth by establishing a Chinese-oriented institution within Macau, and it seems that the City University of Macau (CityU) may have also begun to pursue a similar strategy for growth. In these institutions, with a majority of both students and staff from the People's Republic of China, there is little reason for the institution to enforce a strict EMI policy in programmes. Most students are from China (residing in Macau on foreign

student visas) and most of the teaching staff are also from China (residing in Macau on non-resident work permits). It really is no surprise that Botha (2013) found that English-medium of instruction at MUST was EMI in name only; the teaching staff and students alike are from the PRC where the normal MOI is Putonghua, and this is what they use.

There are, therefore, dichotomous goals within Macau's tertiary institutions: whether to focus on local educational needs or to develop globally-recognised programmes that potentially might limit local competitiveness to enrol. Public institutions must abide by government policy and not offer less than 70% of undergraduate enrolment spaces to local Macau students. This is consistent across all the publicly-funded institutions. The University of Macau, however, has adopted the strategy of recruiting post-graduate students from the PRC to develop the research profile of the University and to develop the institution's global competitiveness. While balancing local needs with global competitiveness, public institutions have also struggled to preserve English as the primary medium of instruction, and every institution has necessarily established programmes that use Chinese either as a *primary* or *supplementary* MOI. Although Chinese MOI may become an increasingly desirable alternative, especially to teaching staff and students who come from the PRC, local parents and student normally view EMI tertiary education within the territory as more desirable. There is, therefore, strong pressure from both institutional and community stakeholders to maintain EMI education and avoid the perception that EMI is in 'name only', as it appears to be in some privately-owned for-profit institutions.

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