EDUCATION

19 EDUCATION

Singapore's education system aims to nurture every child and help all students discover their talents, realise their full potential, and develop a passion for life-long learning.

"Thinking Schools, Learning Nation" (TSLN)—adopted in 1997 as Singapore's vision in education—describes a nation of thinking and committed citizens capable of meeting the challenges of the future, and an education system geared to the needs of the 21st century. Since 2003, Singapore has also focused on nurturing a spirit of Innovation and Enterprise (I&E) among students and teachers. "Teach Less, Learn More" (TLLM) was a call for all educators to teach better, improve the quality of interaction between teachers and students, and equip students with the knowledge, skills and values that prepare them for life.

A cornerstone of Singapore's education system is the bilingual policy which allows each child to learn English and his Mother Tongue, which could be Malay, Chinese or Tamil, to the best of his abilities. This enables children to be proficient in English, which is the language of commerce, technology and administration, and their Mother Tongue, the language of their cultural heritage.

There are opportunities for every child in Singapore to undergo at least ten years of general education. The school system features a national curriculum, with major national examinations at the end of the primary, secondary and junior college years. In recent years, Singapore has also moved towards a more flexible and diverse education system, aimed at providing students with greater flexibility and choice. Upon completion of their primary education, students can choose from a range of education institutions and programmes that cater to different strengths and interests. To allow a greater range of student achievements and talents to be recognised, selected secondary schools, junior colleges, polytechnics and universities have the flexibility to admit a percentage of their intake using school-based criteria in the direct or discretionary admission exercises.

Primary Education

At the primary level, students go through a six-year course aimed at giving them a good grasp of English, Mother Tongue and Mathematics. In addition, students learn Science, Social Studies, Civics & Moral Education, Music, Art & Crafts, Health Education and Physical Education. They are also encouraged to participate in Co-Curricular Activities (CCAs) and Community Involvement Programme (CIP).

Starting from the 2008 Primary 5 cohort, primary schools have introduced Subject-based Banding to replace the current EM3 stream. With Subject-based Banding, students can take a mix of Standard or Foundation subjects depending on their aptitude in each subject. Under the previous system of streaming, students in the EM3 stream take all academic subjects at the Foundation level, while students in the merged stream[1] take all academic subjects at the Standard level.

At the end of Primary 6, students take the Primary School Leaving Examination (PSLE), which assesses their suitability for secondary education and places them in the appropriate secondary school course that will match their learning pace, ability and inclination.

Secondary Education

At the secondary level, students undergo one of three courses designed to match their learning abilities and interests:

The Express Course is a four-year course leading to the Singapore-Cambridge General Certificate of Education Ordinary Level

[1] From 2004, the distinction between the EM1 and EM2 streams was removed, and schools were given the autonomy to band their pupils by ability, in ways that add the most educational value.

(GCE 'O' Level) Examination. In this course, students learn English and Mother Tongue, as well as Mathematics, Science and the Humanities.

The Normal (Academic) Course is a four-year course leading to the GCE Normal Level ('N' Level) Examination. In the Normal (Academic) Course, students learn a range of subjects similar to those in the Express Course. Students who do well at the 'N' levels will qualify for an additional year to prepare for the 'O' levels. Selected students may offer 'O' level subjects at Secondary 4, or, bypass the 'N' levels and progress directly to Secondary 5 to take the 'O' levels. Students who do well enough in their 'N' levels to meet the criteria for progression to Secondary 5 will also be given the additional option of enrolling in a new curriculum track comprising direct entry to Higher National ITE Certificate (Nitec) courses at the Institute of Technical Education (ITE).

The Normal (Technical) Course is a four-year course leading to the GCE 'N' Level Examination. In this course, students learn English, Mother Tongue, Mathematics and subjects with technical or practical emphases. Since 2005, schools have also been offering Elective Modules, which cover a wide range of subjects including nursing, hospitality, digital animation and precision engineering. To enhance experiential and practice-oriented learning, a revised Normal (Technical) curriculum has been implemented in all schools from 2007.

Since 2006, secondary schools have also been offering Advanced Elective Modules in collaboration with polytechnics, to allow students to experience and benefit from practice-oriented learning in fields as diverse as digital media and entrepreneurship. Upper secondary students in participating schools are eligible to offer these modules.

Starting January 2008, secondary schools have also partnered the polytechnics to offer new 'O' level subjects in applied disciplines. These new Applied Subjects will be reflected in the students' GCE 'O' level Examination Certificates and will be recognised for admission into Junior Colleges and Polytechnics. The introduction of Applied Subjects will allow students to benefit from being exposed to applied learning options in their secondary school years.

To better cater to students who can benefit from a more customised and vocational curriculum, a new school, NorthLight School, was established. The school offers a 3 or 4-year enhanced vocational programme that caters to the small group of students who are unable to progress through the mainstream secondary school system and are at risk of prematurely leaving school. Graduates of the school can progress to further education at the ITE, employment or apprenticeship with the industries. From 2009, the remaining vocational training centre, Assumption Vocational Institute, will be remodeled to form the Assumption Pathway School to offer a similar vocational programme.

Integrated Programme

Students who are clearly university-bound, and could do well in a less structured environment, also have the choice of the Integrated Programme (IP), which spans secondary and junior college education without intermediate national examinations at the end of secondary school. Time previously used to prepare students for the GCE 'O' Level Examination would be used to engage them in broader learning experiences. Selected schools also offer alternative curricula and qualifications (e.g., International Baccalaureate).

Specialised Independent Schools

Specialised Independent Schools (SIS) have been set up to cater to students who are talented in sports, mathematics and science,

and the arts to allow such students to further develop their talents with customised curriculum. The Singapore Sports School started in 2004 while School of the Arts was opened in January 2008. The NUS High School of Mathematics and Science opened its doors to students in 2005 and provides a 6-year education with students graduating with the school's own diploma. From 2010, a new SIS, the School for Science and Technology will be set up to provide capable students with a strong foundation in both academic and applied learning.

Post-Secondary Education

On completing secondary education, students can enter a junior college for a two-year pre-university course or a centralised institute for a three-year course. At the end of the pre-university course, students sit for the GCE Advanced Level ('A' Level) Examination.

Students interested in technical and commercial studies can enrol in the polytechnics or the Institute of Technical Education (ITE). Polytechnic graduates who do well may pursue degree courses at the universities, and ITE graduates who perform well may pursue diploma courses at the polytechnics.

Students interested in the creative arts can choose to enrol in the LASALLE College of the Arts or the Nanyang Academy of Fine Arts which offer diploma programmes in Visual and Performing Arts. These are funded by the Ministry of Education and include programmes in music, theatre, dance, interior design and fashion design.

Institute of Technical Education

The Institute of Technical Education (ITE) was established on 1 April 1992 as a post-secondary institution, providing pre-employment training for secondary school leavers, as well as part-time education and skills training for adult learners.

At ITE, full-time training and traineeship programmes are offered to school leavers with GCE 'O' and 'N' qualifications.

Full-time programmes, which lead to the award of the Higher National ITE Certificate (*Higher Nitec*) and National ITE Certificate (*Nitec*), are offered in the areas of engineering, business and services, design and media, information communications technology and applied and health sciences.

Traineeship is an 'earn-as-you-learn' scheme for secondary school leavers. It has two training components, namely, On-the-Job Training (OJT) and Off-the-Job Training (Off-JT). OJT is conducted by the company on its premises. Off-JT, however, could be provided by ITE, industry training centres or companies certified by ITE as Approved Training Centres.

For adult learners, skills training and academic education programmes are offered. Employees can also undergo OJT in companies which are Certified OJT Centres or Approved Training Centres. In addition, ITE conducts skills evaluation tests for public candidates and instructional skills and related programmes for industry trainers.

Adult learners may choose from a range of *Master Nitec, Higher Nitec, Nitec* and ITE Skills Certificate (ISC) programmes to upgrade their skills. The programmes are offered in modules of 6 months' duration, giving adult learners the flexibility to sign up for training based on their needs. Those who have acquired the *Nitec/Higher Nitec* qualification may continue to update their skills and knowledge through the Post-Nitec programmes.

For adult learners who wish to upgrade themselves academically the option offered by ITE is the part-time General

Education Programme from Secondary One Normal to GCE 'N' and GCE 'O' levels, which provides working adults the opportunity to acquire academic qualifications.

The Basic Education for Skills Training (BEST) Programme and the Worker Improvement through Secondary Education (WISE) Programme have been phased out from December 2008 and February 2009 respectively.

Higher Learning

The institutions of higher learning in Singapore are the National University of Singapore, Nanyang Technological University (including National Institute of Education), Singapore Management University, Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic and Republic Polytechnic.

The *National University of Singapore* (NUS) was established in August 1980 with the merger of the University of Singapore (founded in 1962) and Nanyang University (founded in 1955).

NUS has 14 faculties/schools, of which nine offer courses leading to first degrees and higher degrees. They are namely: Arts and Social Science, Business, Computing, Dentistry, Design and Environment, Engineering, Law, Medicine and Science. The Yong Siew Toh Conservatory of Music offers Graduate Diploma programmes while the other three schools: Duke-NUS Graduate Medical School Singapore, NUS Graduate School for Integrative Sciences and Engineering, and Lee Kuan Yew School of Public Policy, offer higher degree courses only. There is also a teaching institute known as the Institute of Systems Science.

NUS has also established specialist research institutes and centres to promote research and advanced training in areas of strategic importance to the nation's development such as translational medicine, nanoscience and nanotechnology, quantum information and technology, environment and water technology, interactive and digital media, maritime research and transportation, logistics and supply chain management, and defence-related research.

The *Nanyang Technological University* (NTU) is a research-intensive university with globally-acknowledged strengths in science and engineering. The university has roots that go back to 1955 when Nanyang University was set up. In 1981, Nanyang Technological Institute (NTI) was established on the premises of the former Nanyang University. In 1991, NTI was inaugurated as NTU with the absorption of the National Institute of Education.

The University is organised into four colleges with 12 schools, and three autonomous entities as follows:

- College of Engineering (comprising *School of Chemical and Biomedical Engineering, School of Civil and Environmental Engineering, School of Computer Engineering, School of Electrical and Electronic Engineering, School of Materials Science and Engineering,* and *School of Mechanical and Aerospace Engineering)*

- College of Business (comprising *Nanyang Business School*)

- College of Science (comprising *School of Biological Sciences, and School of Physical and Mathematical Sciences)*

- College of Humanities, Arts and Social Sciences (comprising *School of Art, Design and Media, School of Humanities and Social Sciences, and Wee Kim Wee School of Communication and Information)*

- National Institute of Education, S Rajaratnam School of International Studies and the Earth Observatory of Singapore

The schools offer undergraduate programmes as well as a range of graduate programmes leading to the degrees of Master, Doctor of Philosophy and graduate diplomas.

To facilitate multi-disciplinary research and advanced training, research institutes such as the Earth Observatory of Singapore, Institute for Media Innovation, Nanyang Environment and Water Research Institute and several research centres have been set up. NTU has also started a life sciences graduate school at One-North Campus since January 2009.

With its focus on pioneering innovative and reliable homegrown technologies, NTU has seen over 30 companies started up to commercialise technologies developed at NTU in various fields ranging from biomedical devices to e-commerce, IT, electronics and manufacturing process. NTU also has links with over 400 overseas universities and institutes leading to joint education and research programmes, as well as interactions among faculty and students.

The National Institute of Education (NIE), formed in July 1991 by the merging of the former Institute of Education and the College of Physical Education, became part of NTU on the same day. NIE provides professional training for teachers as well as the study of a wide range of academic subjects.

NIE offers the four-year Bachelor of Arts (Education) and Bachelor of Science (Education) programmes and part-time Bachelor of Education Programme as well as the one-year/two-year Diploma in Education and Diploma in Physical Education Programmes for holders of GCE 'A' Level and Polytechnic Diploma qualifications. It also offers the Postgraduate Diploma in Education Programme for university graduates. In addition to the initial teacher preparation programmes, NIE conducts a variety of in-service training programmes. Facilities are also available at NIE for higher degree studies leading to the degrees of Master, Doctor of Philosophy and Doctor in Education.

The Singapore Management University (SMU) is Singapore's first private university to offer an American-style university education. Modeled on the Wharton School of the University of Pennsylvania, the university comprises six schools: Lee Kong Chian School of Business, School of Accountancy, School of Economics, School of Social Sciences, School of Information Systems and School of Law. SMU adopts a unique pedagogy of interactive seminar-style teaching in small classes and individualised attention while producing inter-disciplinary research that is industry-relevant. The university empahsises active student life engagement and provides opportunities for overseas exposure. It is known for grooming outstanding business leaders and creative entrepreneurs who are confident, articulate and business savvy.

SMU offers bachelor's, master's and PhD degree programmes in business and management-related areas, ranging from Accountancy, Economics, Finance, Wealth Management, Law, Information Systems and Social Science. It is a mid-sized university comprising more than 6,000 undergraduate and postgraduate students on its city campus.

Polytechnics: There are five polytechnics offering a wide range of courses at diploma and advanced diploma levels. They are the Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic and Republic Polytechnic. Each polytechnic specialises in specific fields, in addition to various courses in engineering (aeronautical, civil and structural, electrical, electronics, mechanical & manufacturing), chemical & life sciences and other sciences,

design, business, management, accountancy, media and communication, tourism and hospitality management, performing arts, humanities and information technology. These specialised fields include architectural studies, applied drama, maritime studies, publishing, law and management, library studies, health sciences and psychology studies, optometry, cardiac technology, sonography, police studies and security management, insurance practice and pre-school education. Some of the courses are conducted on a part-time basis for working adults.

19.1 ENROLMENT IN EDUCATIONAL INSTITUTIONS

Number

	1998	2003	2004	2005	2006	2007	2008
Total	604,536	669,858	675,990	680,619	688,310	700,774	704,117
Primary Schools	288,228	299,939	296,419	290,261	284,600	285,048	279,272
Secondary Schools	177,896	206,426	213,534	213,063	215,097	218,062	217,081
Pre-University [1]	23,531	24,559	24,681	28,901	30,726	31,627	32,579
Institute of Technical Education [2]	13,337	17,941	19,207	20,855	22,954	23,465	24,367
Polytechnics [3]	55,223	62,206	62,031	64,422	67,667	72,379	76,756
National Institute of Education	3,350	3,361	3,042	3,676	4,348	4,447	5,034
Universities [4]	42,971	55,426	57,076	59,441	62,918	65,746	69,028

Source : Ministry of Education, Institute of Technical Education, Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic, Republic Polytechnic, National Institute of Education, National University of Singapore, Nanyang Technological University and Singapore Management University.

Note : Data for primary, secondary and pre-university exclude private schools.

1 Includes Centralised Institutes and Junior Colleges.

2 With effect from 2000 onwards, data refer to full-time peak student enrolment. Prior to 2000, figures refer to full-time average student enrolment.

3 Refers to full-time and part-time diploma and advanced diploma students in Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic and Republic Polytechnic.

4 Refers to full-time and part-time undergraduate and postgraduate students in National University of Singapore, Nanyang Technological University and Singapore Management University.

19.2 STUDENTS AND TEACHERS IN EDUCATIONAL INSTITUTIONS, 2008

Number

	Institut-ions [1, 2]	Students			Teachers		
		Total	Males	Females	Total	Males	Females
Total	368	704,117	367,900	336,217	38,483	14,586	23,897
Primary Schools	174	272,097	141,521	130,576	12,723	2,269	10,454
Secondary Schools	154	201,531	103,655	97,876	11,062	3,745	7,317
Mixed Levels [2]	14	30,981	16,023	14,958	2,048	737	1,311
Pre-University [3]	14	24,323	10,913	13,410	1,997	829	1,168
Institute of Technical Education [4]	3	24,367	15,947	8,420	1,447	964	483
Polytechnics [5]	5	76,756	41,633	35,123	4,712	2,815	1,897
National Institute of Education	1	5,034	1,716	3,318	686	339	347
Universities [6]	3	69,028	36,492	32,536	3,808	2,888	920

Source : Ministry of Education, Institute of Technical Education, Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic, Republic Polytechnic, National Institute of Education, National University of Singapore, Nanyang Technological University and Singapore Management University.

Notes : Figures for primary, secondary and pre-university exclude private schools.
Figures for institutions of higher learning include part-time students and teachers.

1 Figure for ITE refers to ITE colleges.

2 The category Mixed Level, which caters to schools with multiple levels, encompasses Full Schools (P1-S4/5), 6th Form Schools (S1-JC2) and JC-plus (S3-JC2).

3 Includes Centralised Institutes and Junior Colleges.

4 Data refer to full-time teaching staff and students.

5 Includes Singapore Polytechnic, Ngee Ann Polytechnic, Temasek Polytechnic, Nanyang Polytechnic and Republic Polytechnic.

6 Includes National University of Singapore, Nanyang Technological University and Singapore Management University

19.3 ENROLMENT IN GOVERNMENT AND GOVERNMENT-AIDED PRIMARY SCHOOLS BY LEVEL AND AGE

Number

	1998	2003	2004	2005	2006	2007	2008
Total	288,228	299,939	296,419	290,261	284,600	285,048	279,272
Level							
Primary 1	49,854	49,044	47,256	43,492	43,914	47,964	42,880
Primary 2	51,830	49,027	48,905	47,348	43,652	44,370	47,994
Primary 3	48,549	49,933	49,035	49,070	47,697	44,502	45,019
Primary 4	53,737	50,452	49,929	49,217	49,368	48,345	44,926
Primary 5	44,222	50,111	50,399	50,010	49,314	49,784	48,307
EM1	8,482	10,798	47,210	46,525	46,198	46,618	-
EM2	31,920	36,134	-	-	-	-	-
EM3	3,820	3,179	3,189	3,485	3,116	3,166	-
Primary 6	40,036	51,372	50,895	51,124	50,655	50,083	50,146
EM1	6,556	8,888	45,402	45,667	45,100	44,834	-
EM2	26,611	36,330	-	-	-	-	-
EM3	6,869	6,154	5,493	5,457	5,555	5,249	-
Age (in years)							
Under 7	49,064	48,092	46,367	42,531	42,729	46,837	41,548
7 & Under 8	51,379	48,456	48,327	46,837	43,124	43,690	47,538
8 & Under 9	48,096	49,573	48,494	48,471	47,132	43,762	44,138
9 & Under 10	53,414	50,057	49,574	48,618	48,703	47,720	44,158
10 & Under 11	43,913	49,613	49,983	49,753	48,902	49,257	48,006
11 & Under 12	38,393	49,526	49,585	50,044	49,939	49,276	49,360
12 & Under 13	2,487	2,874	2,356	2,450	2,395	2,966	2,854
13 & Under 14	1,156	1,328	1,275	1,124	1,229	1,058	1,248
14 & Over	326	420	458	433	447	482	422

Source : Ministry of Education

Notes : EM1 refers to the stream where pupils learn English and the mother tongue at higher level (Higher Chinese, Higher Malay or Higher Tamil formerly known as CL1, ML1 and TL1).

EM2 refers to the stream where pupils learn English and the mother tongue (Chinese, Malay or Tamil formerly known as CL2, ML2 and TL2).

EM3 refers to the stream where pupils learn English and the mother tongue (Chinese, Malay or Tamil) at basic proficiency level.

With effect from 2004, the distinction between the EM1 and EM2 streams was removed.

With effect from 2008, subject-based banding has replaced the EM3 stream in Primary 5 and Primary 6.

19.4 ENROLMENT IN GOVERNMENT AND GOVERNMENT-AIDED SECONDARY SCHOOLS AND JUNIOR COLLEGES BY LEVEL AND AGE

Number

	1998	2003	2004	2005	2006	2007	2008
Total	201,426	230,985	238,215	241,964	245,823	249,689	249,660
Level							
Secondary 1	42,199	51,984	50,458	50,230	50,772	50,687	50,214
Special	4,247	4,565	4,696	4,379	4,262	4,238	-
Express	21,506	28,286	26,856	26,514	26,973	27,396	30,873
Normal (Academic)	9,665	12,534	11,596	12,468	12,419	11,981	12,811
Normal (Technical)	6,781	6,599	7,310	6,869	7,118	7,072	6,530
Secondary 2	41,478	49,335	52,124	50,856	50,807	52,026	51,830
Special	4,062	4,408	4,541	4,745	4,316	4,277	4,156
Express	21,287	26,029	28,001	26,768	26,747	27,473	27,781
Normal (Academic)	9,857	11,747	13,257	12,357	13,191	13,282	12,879
Normal (Technical)	6,272	7,151	6,325	6,986	6,553	6,994	7,014
Secondary 3	41,517	54,608	51,010	53,910	53,027	53,660	54,557
Special	3,822	5,137	4,638	4,995	5,155	4,818	4,751
Express	22,111	28,325	26,538	28,493	27,541	27,856	28,456
Normal (Academic)	9,900	13,572	12,941	14,329	13,557	14,386	14,481
Normal (Technical)	5,684	7,574	6,893	6,093	6,774	6,600	6,869
Secondary 4	42,263	43,207	51,848	48,462	51,463	51,525	50,919
Special	3,691	3,955	4,688	4,370	4,764	4,894	4,629
Express	22,183	22,140	27,285	25,542	27,503	26,771	26,648
Normal (Academic)	10,723	10,610	12,636	12,014	13,377	13,072	13,333
Normal (Technical)	5,666	6,502	7,239	6,536	5,819	6,788	6,309
Secondary 5	10,439	7,292	8,094	9,605	9,028	10,164	9,561
Normal (Academic)	10,439	7,292	8,094	9,605	9,028	10,164	9,561
Junior College 1 / Pre-U 1	12,305	11,878	13,435	16,173	15,144	17,156	16,836
Junior College 2 / Pre-U 2	10,927	12,458	11,000	12,499	15,258	14,080	15,423
Pre-U 3	298	223	246	229	324	391	320
Age (in years)							
Under 12	38	21	12	11	13	15	9
12 & Under 13	39,815	48,858	47,178	47,168	47,803	47,451	46,657
13 & Under 14	39,947	47,116	50,327	48,434	48,552	49,585	49,432
14 & Under 15	39,051	52,839	47,683	50,957	49,077	49,910	50,632
15 & Under 16	40,430	43,323	52,930	47,991	51,551	50,427	50,923
16 & Under 17	22,724	21,497	24,140	29,384	27,117	30,425	28,284
17 & Under 18	16,102	14,385	12,969	15,060	18,366	17,775	18,938
18 & Under 19	2,902	2,313	2,269	2,281	2,614	3,238	3,676
19 & Under 20	368	539	605	574	639	749	966
20 & Over	49	94	102	104	91	114	143

Source : Ministry of Education

Note : Starting from the Secondary 1 students in 2008, the Special and Express Courses have been merged into "Express Course".

19.5 PRIVATE REGULAR SCHOOLS, STUDENTS AND TEACHERS

Number

	1998	2003	2004	2005	2006	2007	2008
Schools	3	2	2	2	2	2	2
Students	1,032	1,014	784	720	865	576	902
Primary	94	106	64	76	92	75	128
Secondary	646	713	588	548	572	388	604
Pre-university	292	195	132	96	201	113	170
Teachers	48	63	61	64	61	60	76

Source : Ministry of Education

19.6 ENROLMENT IN POLYTECHNIC DIPLOMA COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
MALES	30,035	32,848	32,962	34,266	36,123	38,625	40,583
Education	-	7	6	15	17	63	92
Applied Arts [1]	645	845	910	1,056	1,356	1,583	1,821
Humanities & Social Sciences	-	-	-	10	17	40	90
Mass Communication	171	326	357	362	391	438	485
Library Science	7	52	64	37	20	1	-
Business & Administration [2]	2,920	2,941	2,991	3,267	3,810	4,605	5,672
Legal Studies	88	107	118	123	133	131	137
Science & Related Technologies	397	971	1,068	1,169	1,286	1,487	1,504
Health Sciences	331	562	848	1,075	1,360	1,396	1,619
Information Technology	3,252	6,907	6,876	6,879	6,740	7,063	7,054
Architecture & Building [3]	952	556	588	596	667	724	792
Engineering Sciences	20,947	19,066	18,569	19,155	19,873	20,500	20,670
Services [4]	325	508	567	522	453	594	647
FEMALES	23,142	27,113	27,379	28,858	30,420	32,358	34,179
Education	-	350	413	469	517	575	612
Applied Arts [1]	733	1,044	1,210	1,543	1,859	2,150	2,355
Humanities & Social Sciences	-	-	-	73	136	222	360
Mass Communication	424	762	828	899	944	986	1,035
Library Science	53	154	216	153	98	3	1
Business & Administration [2]	7,811	7,585	7,263	7,268	7,524	8,400	9,465
Legal Studies	218	245	230	236	238	238	233
Science & Related Technologies	927	1,406	1,573	1,682	1,777	2,076	2,207
Health Sciences	1,762	2,849	3,632	4,159	4,694	4,814	5,247
Information Technology	2,011	4,808	4,869	5,144	5,153	5,216	5,024
Architecture & Building [3]	907	857	833	870	955	972	982
Engineering Sciences	8,192	6,876	6,145	6,173	6,303	6,435	6,341
Services [4]	104	177	167	189	222	271	317

Source : Singapore Polytechnic; Temasek Polytechnic; Republic Polytechnic; Ngee Ann Polytechnic; Nanyang Polytechnic

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time polytechnic diploma courses.
Data include students who are concurrently enrolled in advanced diploma courses.

1 Includes Digital Media Design and Media Production.
2 Includes Accountancy.
3 Includes Real Estate.
4 Includes Maritime Transportation, Nautical Studies and Police Studies.

19.7 ENROLMENT IN UNIVERSITY FIRST DEGREE COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
MALES	17,186	21,275	21,934	23,220	24,657	25,191	26,063
Education	181	290	286	249	212	234	301
Applied Arts [1]	-	83	100	143	223	282	342
Humanities & Social Sciences	1,393	1,501	1,599	1,823	2,135	2,388	2,701
Mass Communication	125	134	132	137	130	147	145
Accountancy	839	672	697	829	1,087	1,100	1,120
Business & Administration	1,165	1,406	1,597	1,914	2,141	2,372	2,534
Law	300	273	314	345	409	457	494
Natural, Physical & Mathematical Sciences	1,034	1,460	1,531	1,846	2,041	2,243	2,592
Medicine	584	673	684	690	685	671	670
Dentistry	81	78	80	72	70	65	70
Health Sciences	54	71	70	81	94	128	176
Information Technology	960	1,230	1,206	1,278	1,429	1,570	1,775
Architecture & Building [2]	431	593	610	609	582	579	600
Engineering Sciences	10,039	12,811	13,018	13,176	13,359	12,872	12,447
Services [3]	-	-	10	28	60	83	96
FEMALES	15,907	20,410	21,252	22,133	23,449	25,372	26,535
Education	449	884	812	695	652	791	1,174
Applied Arts [1]	-	91	126	212	334	429	503
Humanities & Social Sciences	3,961	3,735	3,860	4,331	4,887	5,697	6,058
Mass Communication	349	474	490	507	555	546	543
Accountancy	1,512	1,497	1,698	1,732	1,845	1,734	1,645
Business & Administration	2,669	2,865	3,024	3,098	3,271	3,543	3,688
Law	329	479	502	499	463	547	649
Natural, Physical & Mathematical Sciences	1,918	2,976	3,002	3,203	3,513	3,925	4,227
Medicine	250	441	461	479	503	536	567
Dentistry	57	60	61	67	78	89	93
Health Sciences	177	273	277	352	489	617	711
Information Technology	555	686	651	722	743	768	804
Architecture & Building [2]	746	881	926	870	877	966	973
Engineering Sciences	2,935	5,068	5,319	5,286	5,122	5,021	4,743
Services [3]	-	-	43	80	117	163	157

Source : National University of Singapore
Nanyang Technological University
Singapore Management University

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time first degree courses.

1 Includes Industrial Design.

2 Includes Real Estate.

3 Includes Maritime Studies.

19.8 GRADUATES FROM POLYTECHNIC DIPLOMA COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
MALES	7,748	8,556	9,537	9,560	9,649	9,754	10,659
Education	-	5	4	-	3	3	9
Applied Arts [1]	96	254	243	251	223	298	382
Humanities & Social Sciences	-	-	-	-	-	-	8
Mass Communication	56	63	90	110	105	118	117
Library Science	-	3	3	26	15	18	-
Business & Administration [2]	861	946	896	840	882	1,059	1,108
Legal Studies	20	38	23	34	28	39	43
Science & Related Technologies	95	129	214	324	301	311	410
Health Sciences	74	100	127	178	267	407	408
Information Technology	581	1,603	1,974	2,157	2,067	1,862	2,050
Architecture & Building [3]	325	171	158	176	161	176	175
Engineering Sciences	5,531	5,000	5,580	5,310	5,375	5,262	5,727
Services [4]	109	244	225	154	222	201	222
FEMALES	6,156	7,561	8,300	8,511	8,388	8,799	9,682
Education	-	99	103	111	128	156	175
Applied Arts [1]	137	241	278	308	319	409	582
Humanities & Social Sciences	-	-	-	-	-	-	67
Mass Communication	89	133	238	227	245	307	316
Library Science	-	9	19	55	51	93	2
Business & Administration [2]	2,355	2,489	2,408	2,388	2,281	2,294	2,341
Legal Studies	53	78	104	84	78	82	78
Science & Related Technologies	222	334	323	453	460	453	568
Health Sciences	449	577	725	994	1,130	1,517	1,432
Information Technology	441	1,015	1,345	1,526	1,515	1,415	1,720
Architecture & Building [3]	260	300	312	249	233	274	293
Engineering Sciences	2,128	2,242	2,385	2,081	1,887	1,742	2,035
Services [4]	22	44	60	35	61	57	73

Source : Singapore Polytechnic; Temasek Polytechnic; Republic Polytechnic; Ngee Ann Polytechnic; Nanyang Polytechnic

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time polytechnic diploma courses.
Data refer to academic year.

1 Includes Digital Media Design and Media Production.
2 Includes Accountancy.
3 Includes Real Estate.
4 Includes Maritime Transportation, Nautical Studies and Police Studies.

19.9 GRADUATES FROM UNIVERSITY FIRST DEGREE COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
MALES	4,455	5,197	5,246	4,949	5,207	5,823	5,736
Education	56	97	76	86	89	73	53
Applied Arts [1]	-	11	11	11	11	28	31
Humanities & Social Sciences	547	456	383	351	412	441	478
Mass Communication	27	33	34	36	45	28	32
Accountancy	264	222	234	211	176	260	295
Business & Administration	461	284	325	322	432	493	505
Law	70	59	56	62	70	84	94
Natural, Physical & Mathematical Sciences	422	371	409	321	388	427	469
Medicine	106	128	122	123	135	144	131
Dentistry	24	21	14	22	18	21	18
Health Sciences	8	15	11	16	24	19	10
Information Technology	377	377	412	363	389	303	308
Architecture & Building [2]	141	175	137	138	166	131	148
Engineering Sciences	1,952	2,948	3,022	2,887	2,852	3,371	3,150
Services [3]	-	-	-	-	-	-	14
FEMALES	4,876	5,166	5,299	5,360	5,503	5,670	6,036
Education	133	264	336	278	302	189	172
Applied Arts [1]	-	10	14	11	13	41	50
Humanities & Social Sciences	1,547	1,152	993	1,027	1,071	980	1,203
Mass Communication	74	82	109	110	110	141	132
Accountancy	487	524	387	495	468	575	536
Business & Administration	869	693	742	799	819	894	960
Law	103	81	91	125	134	123	115
Natural, Physical & Mathematical Sciences	678	742	781	674	880	827	796
Medicine	42	66	77	86	94	83	96
Dentistry	12	11	18	12	14	15	17
Health Sciences	69	48	78	69	57	67	77
Information Technology	296	242	309	199	137	190	210
Architecture & Building [2]	153	235	185	234	214	208	243
Engineering Sciences	413	1,016	1,179	1,241	1,190	1,337	1,386
Services [3]	-	-	-	-	-	-	43

Source : National University of Singapore
Nanyang Technological University
Singapore Management University

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time first degree courses.
Data refer to academic year.

1 Includes Industrial Design.
2 Includes Real Estate.
3 Includes Maritime Studies.

19.10 ENROLMENT IN POLYTECHNIC ADVANCED DIPLOMA COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
Total	2,046	2,245	1,690	1,298	1,148	1,417	2,044
Applied Arts [1]	1	17	24	49	60	35	34
Business & Administration [2]	544	388	289	255	217	219	468
Science & Related Technologies	18	110	89	109	61	88	137
Health Sciences	133	85	320	266	257	235	520
Information Technology	418	455	202	107	82	105	186
Architecture & Building [3]	56	18	-	21	7	-	22
Engineering Sciences	794	1,041	671	442	387	495	449
Services [4]	64	64	38	27	25	82	57
Others	18	67	57	22	52	158	171

Source : Singapore Polytechnic, Temasek Polytechnic, Republic Polytechnic, Ngee Ann Polytechnic, Nanyang Polytechnic

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time post diploma, advanced diploma, management diploma, specialist diploma and postgraduate diploma courses.
Data include students who are concurrently enrolled in diploma courses.

1 Includes Digital Media Design and Media Production.
2 Includes Accountancy.
3 Includes Real Estate.
4 Includes Maritime Transportation and Police Studies.

19.11 ENROLMENT IN HIGHER DEGREE COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
Total	10,240	14,380	14,639	14,958	16,282	17,059	18,719
Education	169	434	495	550	1,075	1,358	1,681
Humanities & Social Sciences	821	1,461	1,473	1,613	1,638	1,659	1,815
Mass Communication	301	476	551	461	469	419	434
Business & Administration [1]	1,724	1,382	1,486	1,667	2,218	2,525	2,805
Law	115	163	242	253	279	316	341
Natural, Physical & Mathematical Sciences	781	1,318	1,392	1,467	1,608	1,829	2,146
Medicine & Dentistry [2]	479	940	1,080	1,152	1,199	1,107	1,156
Information Technology	709	1,093	1,020	1,008	1,112	1,156	1,439
Architecture & Building [3]	563	589	535	456	478	497	500
Engineering Sciences	4,532	6,473	6,307	6,211	6,070	6,060	6,225
Services	46	51	58	99	111	106	144
Others	-	-	-	21	25	27	33

Source : National University of Singapore, Singapore Management University, Nanyang Technological University, National Institute of Education

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time postgraduate diploma and higher degree courses offered by National University of Singapore, Nanyang Technological University and Singapore Management University, and higher degree courses offered by National Institute of Education.

1 Includes Accountancy.
2 Includes Pharmacy.
3 Includes Real Estate.

19.12 GRADUATES FROM POLYTECHNIC ADVANCED DIPLOMA COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
Total	1,228	1,558	1,366	1,303	1,070	995	1,152
Applied Arts [1]	44	6	5	9	31	34	15
Business & Administration [2]	436	315	336	332	235	192	285
Science & Related Technologies	18	30	68	64	75	45	65
Health Sciences	139	239	86	296	318	311	250
Information Technology	135	369	320	193	115	109	133
Architecture & Building [3]	65	-	18	-	7	7	-
Engineering Sciences	302	450	440	341	243	242	360
Services [4]	68	99	66	31	28	28	25
Others	21	50	27	37	18	27	19

Source : Singapore Polytechnic Temasek Polytechnic Republic Polytechnic
Ngee Ann Polytechnic Nanyang Polytechnic

Note : Data are classified according to the Singapore Standard Educational Classification 2000.

Note : Covers full-time and part-time post diploma, advanced diploma, management diploma, specialist diploma and postgraduate diploma courses.

1 Includes Digital Media Design and Media Production.
2 Includes Accountancy.
3 Includes Real Estate.
4 Includes Maritime Transportation and Police Studies.

19.13 GRADUATES FROM HIGHER DEGREE COURSES BY TYPE OF COURSE

Number

Type of Course	1998	2003	2004	2005	2006	2007	2008
Total	2,165	4,295	4,399	5,250	5,084	5,568	5,935
Education	21	54	94	168	164	249	288
Humanities & Social Sciences	159	503	481	474	543	617	534
Mass Communication	40	111	87	254	161	202	175
Business & Administration [1]	554	669	516	647	791	1,002	1,216
Law	91	95	100	148	155	205	238
Natural, Physical & Mathematical Sciences	141	231	271	269	278	268	337
Medicine & Dentistry [2]	154	266	349	408	366	403	477
Information Technology	153	326	393	374	311	377	398
Architecture & Building [3]	96	244	243	265	232	246	292
Engineering Sciences	742	1,779	1,820	2,224	2,022	1,917	1,913
Services	14	17	45	19	44	62	37
Others	-	-	-	-	17	20	30

Source : National University of Singapore Singapore Management University
Nanyang Technological University National Institute of Education

Note : Data are classified according to the Singapore Standard Educational Classification 2000.
Covers full-time and part-time postgraduate diploma and higher degree courses offered by National University of Singapore, Nanyang Technological University and Singapore Management University and higher degree courses offered by National Institute of Education.

1 Includes Accountancy.
2 Includes Pharmacy.
3 Includes Real Estate.

19.14 INTAKE OF STUDENTS/TRAINEES UNDER THE FULL-TIME INSTITUTIONAL TRAINING AND TRAINEESHIP PROGRAMMES AND STUDENTS/TRAINEES WHO COMPLETED THE PROGRAMMES, 2008

Number

Type of Training/Level	Intake of Students/Trainees			Students/Trainees who Completed the Programmes [1]		
	Total	Males	Females	Total	Males	Females
Total	14,583	9,097	5,486	10,819	6,664	4,155
Engineering						
Diploma	50	47	3	-	-	-
Higher National ITE Certificate (*Higher Nitec*)	2,290	1,856	434	1,657	1,369	288
National ITE Certificate (*Nitec*)	5,362	4,447	915	3,954	3,354	600
Info-Communications Technology						
Higher National ITE Certificate (*Higher Nitec*)	623	402	221	447	319	128
National ITE Certificate (*Nitec*)	1,326	869	457	1,084	693	391
Business & Services						
Higher National ITE Certificate (*Higher Nitec*)	2,012	691	1,321	1,422	384	1,038
National ITE Certificate (*Nitec*)	2,920	785	2,135	2,255	545	1,710

Source : Institute of Technical Education

Note : The Full-time Institutional Training and Traineeship Programmes are offered to school leavers with GCE 'O' and 'N' level qualifications.

1 Refers to the number of students/trainees who graduated from Full-Time Training/Traineeship Programme.

19.15 TRAINING PLACES TAKEN UP BY WORKERS UNDER THE SKILLS TRAINING PROGRAMMES AND WORKERS WHO COMPLETED THE PROGRAMMES, 2008

Number

Type of Training/Level	Training Places Taken Up			Workers who Completed the Programmes [1]		
	Total	Males	Females	Total	Males	Females
Total	22,597	17,985	4,612	13,895	11,329	2,566
Engineering						
Higher National ITE Certificate (*Higher Nitec*)	1,188	1,121	67	177	169	8
National ITE Certificate (*Nitec*)	4,601	4,324	277	540	522	18
ITE Skills Certificate (*ISC*)	6,271	6,123	148	4,983	4,820	163
Info-Communications Technology						
Higher National ITE Certificate (*Higher Nitec*)	189	152	37	19	17	2
National ITE Certificate (*Nitec*)	435	331	104	33	26	7
Business & Services						
Higher National ITE Certificate (*Higher Nitec*)	1,715	271	1,444	345	45	300
National ITE Certificate (*Nitec*)	834	96	738	385	146	239
ITE Skills Certificate (*ISC*)	487	149	338	550	177	373
Others [2]	6,877	5,418	1,459	6,863	5,407	1,456

Source : Institute of Technical Education

Note : Most of the Skills Training Programmes are offered in modules of 6 months' duration. A worker may attend more than one module a year.

1 Figures refer to number of workers who graduated or completed their programmes.

2 Includes short courses and customised courses.

19.16 TRAINING PLACES TAKEN UP BY WORKERS UNDER THE CONTINUING ACADEMIC EDUCATION PROGRAMMES AND WORKERS WHO COMPLETED THE PROGRAMMES, 2008

Number

Type of Programme	Training Places Taken Up			Workers who Completed the Programmes [1]		
	Total	Males	Females	Total	Males	Females
Total	12,440	3,769	8,671	8,429	2,618	5,811
Basic Education for Skills Training (BEST)	5,432	1,502	3,930	3,804	1,083	2,721
Worker Improvement through Secondary Education (WISE)	2,693	639	2,054	1,913	549	1,364
Continuing Education (Secondary 1-5) [2]	4,315	1,628	2,687	2,712	986	1,726

Source : Institute of Technical Education

Note : The BEST and WISE Programmes are offered in modules of 6 months' duration. A worker may attend more than one module a year
From Year 2009, there will be no more intake for BEST and WISE Programmes.
The last output for BEST Programme was in December 2008 and the last output for WISE Programme would be in February 2009.

1 Refers to the number of continuing academic education places taken up and completed by workers.

2 Continuing Education for Pre-University level was phased out in year 2008.

19.17 GOVERNMENT EXPENDITURE ON EDUCATION

Thousand Dollars

	1998	2003	2004	2005	2006	2007	2008
Total	4,853,120	6,214,434	6,214,121	6,082,278	6,959,285	7,527,668	8,246,278
Recurrent Expenditure	3,167,425	4,996,791	4,974,724	5,215,299	6,351,717	6,785,625	7,486,028
Primary Schools	818,646	1,066,364	1,071,326	1,125,876	1,290,409	1,496,718	1,561,032
Secondary Schools & Junior Colleges [1]	973,076	1,429,183	1,503,050	1,566,401	1,832,547	2,121,570	2,213,577
Institute of Technical Education	120,441	171,067	191,135	203,973	249,154	253,506	275,337
Tertiary	1,010,985	1,829,834	1,697,572	1,765,894	2,548,043	2,410,232	2,855,197
Universities [2]	537,450	1,034,804	1,029,869	1,058,239	1,719,156	1,491,076	1,810,501
National Institute of Education	53,862	80,766	73,256	84,722	100,147	102,243	112,799
Polytechnics	419,673	714,264	594,446	622,933	728,741	816,913	931,898
Others [3]	244,277	500,343	511,641	553,154	431,564	503,598	580,885
Development Expenditure	1,685,695	1,217,643	1,239,397	866,978	607,569	742,043	760,251

Source : Ministry of Education

Note : Data refer to the financial year which begins in April and ends in March of the following year.

1 Includes Centralised Institutes.

2 Includes National University of Singapore, Nanyang Technological University and Singapore Management University

3 Includes MOE Headquarters, Institute of Southeast Asian Studies, Science Centre Board and SIM-Open University Centre.
With effect from 1999, data include Special Education, Nanyang Academy of Fine Arts and Laselle College of Arts.
With effect from 2003, data include Singapore Examinations and Assessment Board.

19.18 GOVERNMENT RECURRENT EXPENDITURE ON EDUCATION PER STUDENT

Dollars

	1998	2003	2004	2005	2006	2007	2008
Primary Schools	2,808	3,508	3,575	3,820	4,243	5,123	5,306
Secondary Schools [1]	4,472	5,437	5,746	5,793	6,246	7,234	7,456
Junior Colleges [2]	6,346	8,791	8,850	9,445	10,161	11,332	12,066
Institute of Technical Education	7,020	8,367	9,399	9,249	10,209	10,343	10,834
Polytechnics	8,144	10,197	10,695	10,843	11,903	12,510	13,260
Universities [3]	12,580	17,477	17,609	17,793	18,472	19,464	20,284

Source : Ministry of Education

Note : Data refer to the financial year which begins in April and ends in March of the following year.

1 Excludes Independent Schools.

2 Includes Centralised Institutes.

3 Includes National University of Singapore, Nanyang Technological University and Singapore Management University (wef 2003).