

SPEECH BY THE PRIME MINISTER
MR LEE KUAN YEW AT THE OPENING OF
SINGAPORE POLYTECHNIC NEW CAMPUS AT DOVER ROAD
ON SATURDAY, 7 JUL 79

I have pleasure in formally declaring open the new campus of the Singapore Polytechnic. It symbolises what we have achieved since it was first established in October 1954 when the Poly started in borrowed premises at three sites - Belvedere Primary School, Tanjong Katong Secondary School, and Connell House.

The Poly has trained 19,000 graduates, or an average of 1,000 a year. The present rate is 3,000 graduates a year from 4,600 full-time students and 3,000 part-time students, doing 3-year courses for diplomas and 2-year courses for certificates.

In mid-1978, the main campus moved from Prince Edward Road to this site. It costs \$42 million to build. The operating cost for 1979-80 is \$16 million, \$13 million on manpower. Its revenue is \$2.6 million. Each student costs \$2,500, excluding overheads like costs of land and buildings.

If we are to achieve our full human potential translated it into sophisticated industrial goods we manufacture or the services we provide, we must raise the standard of education of our students, which can only be done by raising the quality of our teaching at every level. Better teaching makes for more students with good general grounding and greater trainability for specific jobs. Whilst we cannot alter the innate qualities of our people, we shall make the most of those qualities by teaching and training in subjects and skills relevant to today's needs, and in anticipation of tomorrow's development. To be like the industrialised societies, our young must be educated to the same high degree of literacy, knowledge, skills, and versatility in acquiring new skills through retraining as those of the industrialised countries. However talented a people may be, without considerable investments in educational institutions and teachers to nurture and train children through their formative years (5-23 years), their talents will remain uncultivated and unpractised in the wide and diverse skills and knowledge which make up today's complex technotronic-computerised societies.

At present, those in tertiary education form 10.8% of the annual Primary One intake. The German's figure is 25.7%; the Japanese, 40%. (Table I). Although the percentages of Germans and Japanese are not wholly comparable with our figure of 10.8% because of differences in classification of

technical institutes and universities, nevertheless they indicate a quantum leap we must take, educating 2-4 times as many students in the Poly, Ngee Ann, Institute of Education, and universities before we can achieve performance remotely comparable to the Germans or Japanese.

Britain, whose educational institutions we have followed has 30% higher percentage figure of students in tertiary institutions: 11,660 per million of population, compared to Singapore's 8,810, and Japan's 19,720. (Table II). A rough ratio of tertiary trained manpower as a percentage of total population for Japan-Britain-Singapore is 20:12:9, or 7:4:3.

This is the challenge. To get more students to tertiary levels, we must reduce wastage, which is unbearably high in our primary and secondary schools. Through better teaching and more realistic standards of bilingualism, there will be less casualties. Through better grouping or streaming of students, teaching loads and learning speeds can better match learning capacities. Then more will make the grade to Poly and the universities.

In the next 10 years, we must aim to have at least 10% of those who at present get into the Poly or Ngee Ann to make it to engineering or the hard

sciences at university, and 20% of those who today are in the VITB to make it to the Poly and Ngee Ann. This must be done without lowering entrance standards.

It is prudent to assume that our talent pyramid, as a society descended of immigrants of peasant stock, will not be as rich and creamy as that of Germans or Japanese.

Be that as it may, I do not believe that we are as poor as our present educational figures make us out to be. One immense advantage Germans, Japanese, British, and Americans, another people of immigrant stock, have is educated and industrially trained parents. Educated parents are an immense advantage for teaching and training the young. Children do not learn in schools alone. The home and the society provide wide literary, scientific, cultural interaction and experience, processes through which children learn from their elders and their peers. And when they hear, speak, read and write the same language at home and at school and share one culture, the acquisition, consolidation, transmission and advancement of knowledge and skills are easier.

In the next few years, we shall be recruiting more and better teachers for the schools, Poly, Ngee Ann, the Institute of Education, and the universities. It is relatively easy to build better buildings and equip them with the latest facilities. It is slower and more difficult to get better trained and motivated teachers. First, they must be paid accordingly, so that gradually enough good students will go into teaching, full-time and part-time. Second, those in charge of the teachers, like the principals, or Vice-Chancellors, or Directors and Inspectors of Education, must be alert to changes, objectives and methods. We must teach what is relevant to the needs of tomorrow, not of yesterday. For instance, the Poly must carry out annual surveys of employers of Poly graduates and random samples of the graduates on what are the areas of knowledge skills they are deficient in. Employers and the graduates themselves can tell the teachers what they missed learning which they would have found valuable. Liasing with the EDB, the Poly can also anticipate the new knowledge and skills employers will want in Poly graduates for the new industries now in the investment pipeline, like over \$1 billion for petrochemicals, \$550 million for petroleum products, \$270 million for electronic and electrical products, and \$240 million for metal and precision engineering products. Findings from these annual surveys should be published so that all students know what their various prospects are.

For adults who have already completed their former education, and missed their chances at universities or the Poly, the universities and the Poly must offer a second chance by extramural, evening, or vacation courses. This is a crucial factor in realising our potential.

American multinational corporations have told me that they are impressed by the keen desire of the Singapore Poly and university graduates to keep on learning and improving. But neither the Poly nor the university has provided courses to enable them to do so. The government will provide the funds. The universities, Poly and VITB must carry out surveys with employers and graduates to find out what courses or subjects they need for advancement in their work. Then recruit the teachers from abroad. To raise the standard and quality of teaching quickly, we have to recruit teachers from abroad, as not enough of our good students are willing as yet to be teachers. Then schedule these courses in the evenings or at weekends to suit the working student. Our educators must make this effort. It takes resourcefulness and drive to work out new courses and programmes.

Finally, may I record the government's appreciation for the services of public-spirited men, like Mr Low Guan Onn, Chairman of the Board of Governors. He has spent 20 years on the board of the Poly, 4 years as Chairman. Dr Lee Kum Tatt has also served 20 years. Without such people, the Poly would not have had 19,000 graduates in the last 20 years, and Singapore would not have made it. This new campus marks our resolve to provide our young with the opportunities to climb higher up the technological ladder. The never ending search for new knowledge, new skills and the perfection of old skills is what ensures that we progress.

National Archives of Singapore

Table IINTAKES INTO TERTIARY INSTITUTIONS IN JAPAN, WEST GERMANY AND SINGAPORE AS PERCENTAGES OF PRIMARY ONE ENROLMENTS

	Japan (1977)	West Germany (1977)	Singapore (1978)
University Courses	27.9%	16.8%	4.0%
Teachers' Training Courses (for non-graduate entrants)	2.9%	Not available. Probably 2+%	0.9%
Other Tertiary Courses, in Technical and other colleges	9.2%	6.9%	5.9%
Total in Tertiary Institutions	40.0%	25.7%	10.8%

Sources: Percentages were calculated from data in:

Statistical Abstract of Education, Science and Culture (1978 edition)
(Ministry of Education, Science and Culture, Japan)

Education in Japan, 1978 - A Graphic Presentation (Ministry of Education, Science and Culture, Japan)

Statistical Yearbook of the Federal Republic of Germany, 1978

Trends in Education (Ministry of Education, Singapore)

Table II

ENROLMENTS IN TERTIARY INSTITUTIONS IN JAPAN, BRITAIN AND
SINGAPORE, IN TERMS OF NUMBER OF STUDENTS
PER MILLION OF POPULATION

	Japan	Britain	Singapore
University Courses	14,940	5,010	3,790
Teachers' Training Courses	2,010	1,860	690
Other Advanced Courses, in Technical and other colleges	2,770	4,790	4,330
Total	19,720	11,660	8,810

Sources: Figures were calculated from data in:

Statistical Abstract of Education, Science and Culture (1978 edition)
(Ministry of Education, Science and Culture, Japan)

Education in Japan, 1978 - A Graphic Presentation (Ministry of
Education, Science and Culture, Japan)

Statistical Bulletin 9/78, Dec-1978 (Department of Education &
Science, UK)

Education Committee's Yearbook 1977-78, UK

Trends in Education (Ministry of Education, Singapore)