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THE DEVELOPMENT OF EDUCATION IN SINGAPORE; 1959-1969

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by Keng W. Chiam

A thesis presented to the Faculty of Education, School of Graduate Studies, Memorial University of Newfoundland, as partial fulfilment of the requirements for the degree of Master of Education

Newfoundland, 1975

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ABSTRACT

The purpose of this study is to trace the development of education in Singapore from 1959 to 1969.

The turning point of the educational system in Singapore occurred in 1959 when Singapore became an internally self-governing state. The political transformation necessitated the reorientation of education. The political and economic situations in the course of the ensuing eleven years further modified the educational system both in philosophy and in organisation.

Following a brief introduction to the demographic structure, ethnic and linguistic groups, political and economic developments, discussion is focused on the development of the entire spectrum of the educational system in Singapore: pre-school education, primary and secondary education, higher education, teacher-training, adult education and special education. For each of these, the status in 1959 is described and the policy changes and the associated implementation results over the period 1959-1969 are investigated. Problems are identified with special attention being paid to the efficacy of the government's education policy for achieving its three major social goals: (a) increased educational opportunities reflected in the

ABSTRACT

principle of parity for the four language streams -- English, Chinese, Malay and Tamil; (b) industrial growth; and (c) national unity.

The identification of various problems leads to the formation of a set of recommendations for future action.

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Chapter 1

INTRODUCTION

This thesis is a wide-ranging survey of educational developments in Singapore, focusing on the decade following the announcement in 1959 of the first Five-Year Plan.

Although there have been some writings on education in Singapore, no comprehensive treatment of education in the period 1959 to 1969 has been attempted.

This study attempts to rectify this shortcoming. Hopefully, it will be of value to educators and planners concerned with the future of Singapore.

The study presents an analysis of all aspects that are related to the development of education in Singapore. It is hoped that this study will provoke stimulus for discussion and lay the foundation for future researchers who are interested in this area of study.

I. SINGAPORE: THE SOCIAL MILIEU, 1959-69

Demographic, Ethnic and Linguistic Data

Singapore, unlike most other countries, lacks the common fabric that binds a society together as in racial homogeneity or cultural cohesiveness. A combination of factors resulted in the formation of a multi-racial society

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in Singapore from the very beginning of its existence. The first census in 1824 noted that there were Europeans, Arabs, Chinese, Indians, Armenians, Bugis, among others - already a multi-racial society by any standard.[1] Then subsequently the influx of Chinese immigrants whose number grew rapidly transformed them into the dominant ethnic group.[2] They together with the Malays and Indians formed the three major races of the Island. This pattern of growth produced in Singapore one of the largest concentrations of Chinese in Southeast Asia, and the only independent state in the region in which the overseas Chinese comprised the majority of the population.[3] Minorities such as Europeans, Eurasians, and Pakistanis also decided to make this tiny island their home. Thus Singapore became a truly multi-racial, multi-religious and multi-lingual society. (See Table 1.)

---

[1] Rupert Emerson, Malaysia (Kuala Lumpur: University of Malaya Press, 1964), p. 22.

[2] C.M. Turnbull, The Straits Settlements 1826-27 (London: The Athlone Press, 1972), p. 21.

[3] R.J.W. Neville, "Singapore: Ethnic Diversity and Its Implications," Annals of the Association of American Geographers, Vol. 56, 1966, pp. 236-53.

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Table 1

Population by Ethnic Group for Selected Years

YEAR	MALAY		CHINESE		INDIANS & PAKISTANIS		OTHERS	
	Number	%	Number	%	Number	%	Number	%
1957	197,059	13.6	1,090596	75.4	124,084	8.6	34,190	2.4
1963	266,600	14.3	1,396,500	74.9	153,700	8.2	48,100	2.6
1966	276,100	14.4	1,427,000	74.6	156,600	8.2	53,800	2.8
1967	283,500	14.5	1,454,500	74.4	159,400	8.1	58,200	3.0
1968	287,700	14.5	1,478,600	74.4	161,200	8.1	60,400	3.0
1969	292,600	14.5	1,499,800	74.4	161,200	8.0	63,200	3.1

Source: Ministry of Culture, Singapore Facts and Figures, 1970 (Singapore: Government Printing Office), p. 5.

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Table 1 indicates that Chinese, Malays, Indians and Pakistanis comprised more than 96 per cent of the total population. Since the 1830's there had been a tendency for people of like ethnic and linguistic affiliations to live together in well-knit and compact communities in Singapore.[4] Each group retained the more basic attributes of its cultural heritage, but had increasing contact at certain levels and in restricted areas of common interest.

There are six main communities within the Chinese population. They speak Mandarin, Hokkien, Teochew, Cantonese, Hainanese, Hakka, Foochow and a variety of other dialects.[5] The Indian group is similarly heterogeneous in composition, including peoples widely differing in language, religion and custom. Among the Indians, Tamil, Malayali, Ceylonese, Hindi, Urdu, Telugu, Punjabi and Bengali are spoken.[6] Even the Malay group, most homogeneous of all, is comprised of several specific communities drawn

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[4]Yue-Man Yeung, National Development Policy and Urban Transformation in Singapore (Chicago: The University of Chicago, 1973), pp. 53-57.

[5]Iain Buchanan, Singapore in Southeast Asia (London: G. Bell and Sons Ltd., 1972), p. 166.

[6]Sally Backhouse, Singapore (England: David and Charles, 1972), p. 86.

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from the different islands of Indonesia as well as from the Malay Peninsula. The main languages spoken by the Malays are Malay and Javanese. The rest of the minority ethnic groups speak English, French, Japanese and Indonesian. Significant numbers of Eurasians, Europeans, Arabs, Ceylonese and others, present truly cosmopolitan element into the basically diverse composition of this plural society. (See Table 2.)

In Singapore, racial segregation is mainly due to a complete lack of racial and cultural homogeneity rather than racial discrimination and prejudice. Singapore is a pluralistic society. Its peoples differ widely in race, language, religion, custom, habits and standard of living. Above all, the various races have irreconcilable religious differences: all Malays being Muslims, most Indians being Hindus, the majority of the Chinese being Buddhists. As a whole, in spite of their differences in many respects, the various races lived harmoniously under British rule.

Despite the prevalence of general goodwill and harmony, integration to any considerable extent did not occur. This was partly because different racial groups were able to lead their respective pattern of life based on their traditional value systems which they brought with them; and partly because

Table 2

Population By Ethnic Group and Linguistic Group

ETHNIC GROUP	SPECIFIC COMMUNITY	NUMBERS	PER CENT OF ETHNIC GROUP	PER CENT OF TOTAL POPULATION
Chinese		1,519,225	100·0	78·7
	Hokkien		40·6	31·9
	Teochew		22·5	17·7
	Cantonese		18·9	14·9
	Hainanese		7·2	5·7
	Hakka		6·7	5·3
	Foochow		1·5	1·2
	Other		2·6	2·0
Malay		233,997	100·0	12·1
	Malay		68·9	8·4
	Javanese		18·3	2·2
	Boyanese		11·2	1·3
	Other		1·6	0·2
Indian		128,250	100·0	6·7
	Tamil		60·4	4·0
	Malayali		16·8	1·1
	Ceylonese		4·2	0·3
	Other		18·6	1·3
Other		48,261	100·0	2·5
Total		1,929,733		100·0

Sources: State of Singapore, Report on the Census of Population, 1957 (Singapore: Government Printing Office, 1964).

Republic of Singapore, Singapore Sample Household Survey, 1966, Report No. 1 (Singapore: Government Printing Office, 1967).

they were able to transmit these value systems through education both formal and informal. As a melting pot of four major cultural traditions - Western, Chinese, Indian and Islamic - it would be naive to force assimilation of one culture by another.

Political Developments

The years 1959-1969 represent eleven epochal years in the history of Singapore. In 1959, Singapore became an internally self-governing state.[7] The climate of politics in those years was new. New political institutions and habits had to be tested. The 1960's was a decade of innovation, experimentation and probation. The task of transition, inherited by the new government, was made more difficult in a society divided into groups by language and tradition.[8] The bench-marks of self-governing democracy were achieved in the period 1959-1963: the first citizen electorate based

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[7] C.L. Pang, Singapore's People's Action Party: Its History, Organization and Leadership (London: Oxford University Press, 1971), p. 7.

[8] Buchanan, op. cit., pp. 250-311.

on the one man one vote principle, the first fully elected parliament, the first experience of the cabinet system.[9]

Before full independence there were two years of intense political debate on the issue of "Merdeka through Merger."[10] In August 1963 Singapore became independent within Malaysia. From 1963-1965, Singapore's political patterns were predominantly Malaysian.[11]

In May 1964, the People's Action Party took a token part in the Malaysian general election and won 13 seats in the Malaysian Parliament and thus assumed the role of the largest opposition group in Parliament. This small gain for the P.A.P. touched off a power conflict between them and the United Malay National Organization, a member party of the Malaysian government in power. A direct outcome of this was the communal riots on July 21 and September 2, which jointly claimed the lives of 22 persons with 461 person injured.[12]

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[9]Alex Josey, Lee Kuan Yew (Singapore: Donald Moore Press Ltd., 1968), p. 93.

[10]Merdeka is a Malay word meaning independence.

[11]W.A. Hanna, The Formation of Malaysia (New York: American Universities Field Staff Inc., 1964), pp. 7-10.

[12]F.V. Gagliano, Communal Violence in Malaysia, (Ohio: Ohio University, 1970), pp. 11-25.

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Throughout 1964 Singapore was continuously threatened by Indonesian confrontation in the form of sabotage.[13] Bombing incidents occurred in various parts of the island, and innocent men, women and children were killed. Moreover, Singapore lost nearly 70 per cent of her national income.[14] In the same year, Singapore opened its unprecedented industrial front, the Jurong Industrial Complex, the largest industrial project in South East Asia.[15]

Communal feelings intensified in 1965 with Indonesian confrontation no less abated.[16] Five bomb explosions took place with three persons killed and 33 injured.[17]

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[13] Richard Clutterbuck, Riots and Revolution in Singapore and Malaya 1945-1963 (London: Faber and Faber Ltd., 1973), p. 159.

[14] Fong, op. cit., p. 1.

[15] Jurong is an area situated in the south-western corner of Singapore. The Singapore government, following a recommendation made by experts of the United Nations, undertook to set up an industrial estate at Jurong on June 1, 1968. Jurong, therefore, has become the industrial town of Singapore.

[16] Yan-li Wu, Strategic Significance of Singapore: A Study in Balance of Power (Washington: American Enterprise Institute for Public Policy Research, 1972), p. 6.

[17] Straits Times, Singapore, June 1969, p. 3.

INTRODUCTION

Power conflict and political differences between the Malaysian central government and the Singapore government amplified. The leaders of both governments attempted conciliation to no avail. There was no rapprochement in sight and the prospect of Singapore's remaining in Malaysia was diminishing.

Tension accumulated and finally on August 9, 1965 it was simultaneously announced in Singapore and Kuala Lumpur, that Singapore separated from Malaysia to become a sovereign, democratic and independent nation.[18]

The bloody experiences of communal riots and Indonesian confrontation taught Singapore a good lesson: Singapore could never afford to overlook its internal and external security.[19] So at the beginning of 1967 with the British military withdrawal not far ahead Singapore introduced its national service. The purpose was to make all

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[18]G.D. Ness, Bureaucracy and Rural Development in Malaysia (California: University of California Press, 1967), p. xii.

[19]Dick Wilson, The Future Role of Singapore (London: Oxford University Press, 1972), p. 61.

the strata of our society to be able to participate in the defence of the Republic".[20]

Since then Singapore has had to adjust her institutions, policies and attitudes along the line of national sovereignty and independence, with her own defence and foreign policy and economic development.

The Economy

In the United Nations or world arena, Singapore, with only 2.1 million inhabitants, is perhaps one of the softest voices.[21] But to Singaporeans, it is a large city on a small island. The stagnation of rural society or the pursuit of agriculture at the whim and mercy of the rain and the sun are not the challenge it has to face. Singapore is virtually devoid of natural resources.[22] Its chance of survival and

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[20]Statement made by K.S. Goh in an address ("National Defence") at Singapore in the Parliament, on 27, February, 1967.

[21]S.H. Saw, "The Population of Singapore and Its Social and Economic Implications" (Singapore: Central Library University of Singapore, 1960). (Mimeographed.)

[22]H. Hatzfeldt, Economic Development and Planning in Singapore (Bangkok: Ford Foundation, 1968), pp. 3-4.

prosperity lies in the industry and enterprise of its people.[23]

Ten years ago Singapore's economy depended very heavily on the entrepôt trade and the jobs created by the British military bases. The entrepôt trade consisted mainly of buying Malaysian and Indonesian products and reselling them for a profit margin, on the world market, and of supplying the region with European, American and Japanese consumer goods.[24] Singapore thus played the role of a middleman. But the independence of Indonesia and Malaysia in 1949 and 1957 respectively cut out this middleman, because these two neighbouring countries began to develop indigenous marketing, processing and financing, and instituted direct trading.[25] Later the enormous reduction in the British military presence between 1969 and 1971 left another gaping hole in the traditional economy. The problem of survival loomed large when the announcement that the British pull-out would be brought

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[23] Sui Sen Han, Singapore's Industrial Development (Singapore: Economic Development Board, 1965), pp. 28-35.

[24] Wilson, op. cit., p. 90.

[25] Hatzfeldt, op. cit., pp. 20-21.

forward from 1971-1975. The immediate effects of the final pull-out would be:

(1) the loss of annual British military expenditure of $350 million;

(2) the retrenchment of 16,500 Singapore civilian employees;

(3) the disbandment of more than 3,000 locally-enlisted uniformed workers.[26]

The answer to this problem was industrialization. An Economic Development Board and later a Development Bank were formed.[27] Their aim was to give official assistance where the risks were too great, the capital too large, or the returns too slow to engage the interest of private businessmen.

The successful launching of a new industrial estate at Jurong among other similar efforts turned Singapore into a centre not only for oil refining but also for electronics, ship-building and repair and a host of consumer goods industries, destined for home market, for the regional

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[26] Sin Chew Jit Poh (Singapore), June 30, 1969, p. 2.

[27] Josey, op. cit. p. 63.

markets, and also for the advanced markets of the Northern Hemisphere.[28]

Industrialization enabled Singaporeans to achieve a 250 per cent increase in GNP in the ten years from 1960 to 1970.[29] With this performance Singapore was confident to have the capacity to ward off a sudden drop in its economic growth. In 1972, Singapore was able to withstand the economic effects of the British military withdrawal. Moreover, Singapore had doubled her national income during the decade from 1960 to 1970 with only a 30 per cent increase in her labour force.[30] Income per worker had grown by about 50 per cent, greater labour efficiency and improved management were achieved.[31] Economic growth reinforced social as well as political stability. As the writer mentioned before, in a multi-racial, multi-lingual, and multi-religious society so unique as Singapore's, there are still obstacles towards national consolidation. However, social and economic equality, heralded and exemplified by

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[28] Fong, op. cit., pp. 36-40.

[29] Ibid., p. 3.

[30] P.S. You, Singapore Sample Household Survey, 1966 (Singapore: Government Printing Office, 1967), pp. 87-89.

[31] Backhouse, op. cit., pp. 153-154.

the parity in treatment of education irrespective of race or creed, provides a favourable climate for sustained development, despite the many crises which Singapore had gone through from 1959 to 1969—Indonesian confrontation in 1963, separation from Malaysia in 1965, and the repercussions on Singapore of the May 13, 1969 after the racial riot in Kuala Lumpur.[32]

II. EDUCATIONAL POLICY, 1959-1969

The first Five-Year Education Development Plan (1961-1965) was mainly based on universal free primary education and the principle of parity.[33] The second Five-Year Education Development Plan (1966-1970) emphasized the qualitative rather than the quantitative aspects of education.[34] Both plans were designed to foster racial harmony, to create national identity, to develop to the full, human resources for economic needs, and to ensure political stability. The Plans stressed three main features in education -- the principle of parity, education for industrial growth and education for national unity.

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[32] Straits Times (Singapore), September 11, 1968, p. 2.

[33] Dorasamy (ed.), op. cit., p. 59.

[34] Ibid., p. 63.

INTRODUCTION

The Principle of Parity

The principle of parity advocated equal treatment for the four language streams of education in Malay, Chinese, English and Tamil.[35]

The Annual Report of the Department of Education for 1960 explained the principle of parity, stressing that for all children there would be equal opportunity, and freedom to choose the medium of instruction. Parents were assured that whatever choice they made, standards would be the same in all schools, with common curriculum and syllabuses, with trained teachers and the same degree of supervision exercised by the Ministry of Education.[36]

In the colonial period, parity of treatment for the four language streams - Malay, Chinese, Tamil and English - did not exist. The British administrators favoured the English and Malay language streams, and discriminated against the Chinese. The motive was obvious: in order to prolong the colonial rule, the British had to accentuate the differences of education between the various groups in order to perpetuate a state of separateness. This attitude, however, was

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[35] Ibid., p. 60.

[36] Ministry of Education, Annual Report 1960 (Singapore: Government Printing Office, 1960), p. 2.

not rejected when the goal of self-government and eventual independence was won. So the educational policy of the colonial days had to be re-oriented when the People's Action Party came into power. In this respect, the PAP government instead of flirting with the various groups had placed emphasis on cohesion.

To tackle the racial and language problems, the government adopted the following policies:[37]

(1) making Malay the national language.

(2) instituting Malay, Chinese, Tamil and English as four official languages of Singapore;

(3) providing parity of treatment for four streams of education ensuring the same opportunities and facilities;

(4) promoting bilingualism through the compulsory study of a second official language at all levels, and integrating two or more language streams in one school building under a single administration.

All these cohesive steps aimed at breaking down the cultural, social and language barriers and paving the way for racial harmony and common identity.

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[37]State of Singapore, Annual Report 1959 (Singapore: Government Printing Office, 1959), p. 207.

INTRODUCTION

The language issue isonly one aspect of Singapore's racial problem, because Singapore's racial problem is a mixture of different ingredients - ethnic, language, culture and religion. To illustrate this, a brief look at some other countries which have similar racial problems is worthwhile. We hear Switzerland mentioned very often, but unlike Singaporeans, the Swiss belong to the same racial stock. Moreover, the Swiss share a common culture and civilization. Another country which faces racial riots is the United States of America, where the common public schools, using English and English only as the medium of instruction,are believed to have successfully welded the various immigrant groups into one-language, one-nation American identity. Here again, it must be immediately pointed out that language itself is not a panacea: the problem of the American Negros is a case-in-point. In Canada, there is the problem of English and French, particularly in areas where these two language groups co-exist. However, as far as Canada is concerned, the problems are more linguistic than racial. In comparison, Singapore has a much more thorny racial problem at hand. Maybe through education, this problem can be largely, though not wholly, solved. Perhaps given time and careful planning, the goal will one day be reached.

INTRODUCTION

Education for Industrial Growth

Singapore's educational system, a heritage from the colonial days, suffered from its original objectives of providing "academic" education for the purpose of creating a "baboo class" subservient to the colonial ruling class in government service and business. Thus as late as in 1968, 84 per cent of the student population of Singapore were in the academic type of schools.[38] This situation was obviously not in harmony with the needs of industrialization. Realizing the fact that Singapore has no natural but human resources to tap for its very survival, a swing towards technical and vocational education curriculum and structure was immediately made. Since then technical and vocational education have received increased attention. The Government has made serious efforts to train the craftsmen so urgently needed by industries. According to the prediction of the Minister of Education, by 1972, one third of the school leavers were to be technically equipped for the factories and workshops.[39] The industrialization, implemented together

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[38] Fong, op. cit., p. 18.

[39] Ibid., p. 19.

with the re-orientation of the education system, greatly eased Singapore's unemployment situation.

The aim of the government's educational policy was to equip youth with requisite skills for employment in industry. The economy of the country could no longer be sustained by entrepôt trade alone. In the re-orientation of the economic policy of the state, industrialization was accorded a vital role and considered the key to survival. Schools were regarded as training grounds to develop, train and supply skilled labour for the industrial market.[40]

Education for National Unity

The popular slogan in Singapore is "unity in diversity". But the major problem is that racial ties and loyalties are still strong, there can hardly be a true national unity in the sense that all Singaporeans feel that they belong to one nation rather to their own race.[41]

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[40] J. Kennedy, A History of Malaya (New York: St. Martin's Press, 1967), p. 290.

[41] Jin Bee Ooi, Land, People and Economy in Malaya (London: Spottiswoode, Ballantyne & Co. Ltd., 1963), p. 384.

Perhaps this is due to the fact that Singapore is a new nation, and no attempt was made by the British government of the past to inculcate in the various races a common Singaporean outlook.

Education in Singapore was not regarded in a serious vein by the government until the late 1950's. During the colonial period, all the schools had the autonomy to develop on their own. They naturally based their curriculum, teaching methods, textbooks and political orientation on the country of origin with a resultant diffusion of patterns and emphases that in the main were highly academic. In 1968, 84 per cent of the student population of Singapore were in schools that were separated ethnically.[42]

The result of such an educational policy was that the various racial or ethnic groups were physically and culturally separated from one another. Among the immigrant communities, many adults would look towards their countries of origin as objects of their loyalty. As for the indigenous people, tribal rather than national loyalty tended to prevail. Therefore when the People's Action Party came into power, there was an urgent desire to use education as an instrument

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[42] Fong, op. cit. pp. 18-20.

to unite the various races and reorientate them towards a common Singaporean national identity, otherwise, their parochial outlooks would persist and probably would be transmitted to the next generation.

Besides chosing national language and multilingualism as agents of national unity, the government also implemented the policy of using a common content curriculum and Singapore-oriented textbooks in all schools to foster national unity.

The new government took up this task at the time when Singapore appeared increasingly isolated from its neighbours, including the Federation of Malaya and Indonesia. The predominantly Chinese population made more urgent the need to establish a South-East Asian outlook and to foster a national consciousness.

III. ORGANIZATION OF THIS REPORT

The chapters that follow will examine in turn each of the various phases of education -- pre-school, primary and secondary, higher, teacher training, adult and special education. Developments in each phase for the period 1959-1969 will be discussed in the context of the social, political, and economic developments in Singapore as outlined

above, and with special reference to the three dominant thrusts of educational policy in the decade, namely parity in education for language groups, education for industrial growth, and education to foster national unity.

In Chapter II data on the development of pre-school education in Singapore in the decade is presented, and its status discussed.

Chapter III, concerned with primary and secondary education, investigates bilingualism, textbooks, curriculum, enrolment and the integration of schools.

Chapter IV outlines the history of the higher education institutions: Nanyang University, the University of Singapore, the Singapore Polytechnic, Ngee Ann Technical College, and the Singapore Technical Institute.

Chapter V examines the full-time and part-time training programmes for teachers at the Teachers' Training College and at the School of Education of the University of Singapore.

Chapter VI deals with developments in adult education, including the many activities of the Adult Education Board, and the extra-mural program of the University of Singapore.

INTRODUCTION

Chapter VII examines the development during the period 1959-1969 of programs in special education in Singapore including those for the deaf, the blind and the slow to learn.

Chapter VIII summarizes the study and makes recommendations for the future.

Chapter 2

PRE-SCHOOL EDUCATION

This chapter is about developments in pre-school education in Singapore during the period 1959-1969. It documents the growth that occurred, and describes the various organizations that operated kindergartens and day care centres. Finally, an assessment is made of 1969 enrolment and curriculum in terms of the personal needs of children and the national goals of ethnic unity and industrial growth.

I. PRE-SCHOOL EDUCATION IN 1959

In 1959, pre-school education in urban Singapore was provided in registered private kindergartens, in crèches and children's centres of the Ministry of Social Affairs. Registered private kindergartens took children who ranged from two and a half years to about six years of age.

In the case of crèches and children's centres, children usually attended these from the time they were babies till they entered primary school.

Children's centres served those below seven years and, in special cases, those from eight to fifteen years.

PRE-SCHOOL EDUCATION

Most of the children who attended kindergartens were sent by their parents at the age of four or five, often for two years of pre-school education.

Crèches and children's centres were government institutions providing day care to children of working parents. Training in personal hygiene and good habits was given in these crèches. Children were encouraged to learn through free play. For those children who were close to school age, kindergarten activities were added.

II. GROWTH FROM 1959 TO 1969

Kindergartens

A major step in the growth of pre-school education occurred in 1964 with the initiation of kindergartens of the Peoples' Association.[1] These kindergartens catered largely to the needs of the rural areas. They were housed in the community centres. The education offered was considered to be part of the services provided by these community centres to residents in the area. Community centre workers were engaged as staff. Since

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[1] A statutory body charged with the management of community centres and financed almost entirely by the Government.

then the kindergartens have expanded and provided education for the poor. Before 1964 kindergarten was mainly a privilege for the children of the elite.[2]

In 1969 there were about 179 teachers and an enrolment of 12,193 children in kindergartens in 137 community centres. (See Table 3.)

There were, in 1969, 47 registered private kindergartens in Singapore. Most of them were run by the churches and private individuals. In July 1969 there were about 4,900 children attending these kindergartens.[3] These kindergartens adopted a child-centred programme, with the stress on learning through experience and discovery.

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[2] Sin Chew Jit Poh (Singapore), December 2, 1972, p. 12.

[3] Information gathered by the writer through personal visits to several kindergartens in Singapore, in June, 1971.

PRE-SCHOOL EDUCATION

Table 3

The Numbers of Pupils, Teachers and Institutions Involved in Kindergarten Education, Singapore, 1969

	Pupils Enroled	Number of Teachers	Number of Institutions
Rural			
Kindergartens of the People's Associations (community centers)	12,193	179	137
Urban			
Private Kindergartens	4,900		47
Total	17,093		184

Source: Based on personal interviews with several teachers who were involved in kindergarten education in Singapore, June 1-30, 1971.

Table 3 indicates that in the rural areas, there was less than two teachers in each community centre to run the kindergarten education. Furthermore, the ratio between the teacher and pupils was 1 to 68. The teaching load was heavy and pupils could not get the required individual attention. In the urban areas, the exact numbers of students, teachers and institutions were unknown

because no detailed official records were kept regarding pupils, teachers and institutions involved in pre-school education.

In July 1969, there were 10 crèches with a teaching staff of 24 taking care of 427 children. At the same time, there were 9 children's centres with a teaching staff of 46 for 950 children. Therefore, the crèches and children's centre took only a total of 1,377 children daily, with a teacher pupil ratio of 1:9. (See Table 4.) There were 52 regions in Singapore, but there were only 19 Day Care Centres scattered throughout these regions. Therefore, more than sixty per cent of the regions were not served by Day Care Centres.

Table 4

The Number of Pupils, Teachers and Institutions Involved in Day Care Centres, Singapore, 1969

	Pupils Enroled	Number of Teachers	Number of Institutions
Crèches	427	24	10
Children's Centres	950	46	9
Total	1377	70	19

Source: Statement obtained from the Ministry of Social Affairs, personal interview, June 20, 1971.

PRE-SCHOOL EDUCATION

Day-Care

Singapore's national goal of increased industrialization meant that more women had to work in industry. Furthermore, to help to eliminate the general phenomenon of poverty, it was desired to induce more low income mothers into the labor force.

In order to achieve these ends, it was necessary to expand the day-care system so that it would be possible for mothers to work. Government's subsidization of children of poor families was provided as a further inducement. In 1969, 100,800 women out of a total female population of 1,976,700 were in the labor force.[5] Thus, there was a significant population of females in the labor force.

III. FUTURE DIRECTIONS FOR SINGAPORE PRE-SCHOOLS

This section will attempt to assess developments in pre-school education against the needs of children, and Singapore's goals of parity, unity and industrial growth. Comments will focus on enrolment and on the curriculum.

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[5] Sin Chew Jit Poh (Singapore), July 11, 1970, p. 5.

PRE-SCHOOL EDUCATION

The enrolment of 1,377 children in 1969 represent only 72 per cent of the total number of children that were requested to be admitted.[6] This reveals that there was an urgent need for expansion in crèches and children's centres. The staff to children ratio was far from ideal. Furthermore, some of the buildings were too old and lacked adequate space (e.g. Victoria Child's Centre and the Barisan Socialis infant schools).[7] This situation created a problem regarding the satisfactory care of the children. One solution would be to use the 200 (in 1970) community centres scattered over the entire island.[8] These centres were mainly used for recreation. They provided safe, healthful and attractive settings where a desirable kindergarten education might take place. It would be meaningful to convert these community centres into child care centres during the day and in the evening they could still be used for recreation.

Surroundings are important because they help to shape and build the individual. Moreover, free play,

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[6] Sin Chew Jit Poh (Singapore), May 4, 1970, p. 10.

[7] Sin Chew Jit Poh (Singapore), June 6, 1973, p. 12.

[8] Sin Chew Jit Poh (Singapore), December 12, 1969, p. 12.

activities and fresh air are an essential part of infant education. Any good children's centre should safeguard the health of the child and foster the best physical, emotional, mental and social adjustment of the children with the help of specialists. Therefore, the unfavourable conditions in these children's centres and infant schools should be improved. Again use of community centres could well be the answer to this problem.

Kindergarten Enrolment

Goodykoonz, Altstyne, Hatthick and Jersild reported that children who had had school experience at an early age were more advanced in motor skills, social responsibility and demonstrated greater adaptability to new situations than those whose school experience began with first grade.[9] They also found that kindergarten education contributed significantly to emotional adjustment and leadership and tended to promote the child's sociability while at the same time fostering his individuality, independence, self-assertiveness, self-reliance and interest in the environment. It is generally agreed that

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[9] H.M. Lambert, Teaching the Kindergarten Children (New York: Harcourt, Brace and Co., 1958), p. 28.

kindergarten does make a contribution to the child's general adjustment and this, after all, is one of the most important objectives of kindergarten.

Kindergarten plays a special role in the school programme: helping children to a good start and developing healthy bodies and well-integrated personalities.[10] Although the characteristics of personality which are prized highly vary from culture to culture, as do the characteristics required for success in the educational system, kindergarten, as a means for socialization and for easing the transition of the children into a formal educational system, can be expected to be as successful in one society as another, the U.S.A. or Singapore.

Thus, there are the needs for expanding kindergarten enrolment to include every five-year old child, and for incorporating pre-school education into the regular school system.

Required Changes in Pre-School Curriculum

In pre-school institutions, children of all ethnic backgrounds were served equally well. These institutions

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[10] H.T. Peterson, Kindergarten, the Key to Child Growth (New York: Exposition Press, 1958), pp. 8-23.

PRE-SCHOOL EDUCATION

provided the best opportunities for children of different races to mingle, thereby fostering the idea of racial and linguistic tolerance and, in turn, promoting national unity.

Educators in Singapore,[11] agreed with linguists like Bloomfield and N. Chomsky[12] that most children learn languages fast and well when they are young. The writer found children in pre-schools spoke Chinese, Malay and English fluently. Therefore, exposing children of different races to several languages at the kindergarten level is likely to be one of the best ways to achieve the national bilingualism goals. On this basis the writer suggests that kindergartens should be mixed racially and linguistically as far as possible.

The Government should recruit more people into a training institution to be established, where emphasis is placed on personality as well as academic training. Education in the pre-school, is of paramount importance. The experience of the early years mould the child's

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[11] Sin Chew Jit Poh (Singapore), June 18, 1971, p. 11.

[12] N. Minis (ed.), Linguistics at Large (New York: The Viking Press, 1971), p. 202.

attitudes to learning and provide the impetus for his continuing progress. As such, this education is too important to be left in the hands of non-professionals.

Through observation and interviews with the authorities concerned, one found that most kindergartens did not have a very close relationship with parents.[13] Increased parent-school co-operation would help the child to make satisfactory adjustments to the school situation.

The aim of kindergarten is not a transmission of knowledge or an accumulation of academic facts, but rather the gaining of experiences through participation in a rich and happy atmosphere. Instruction in formal skills could be obtained in the formal schools.

The kindergarten curriculum should provide the children with new experiences and should therefore be offered in the form of activities responsive to the different needs of the children as seen by the teachers. The kindergarten cuts through many fields of subject matter taking from each area what will further the growth and development of the children. That is why the

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[13] In June 1971, the writer visited several kindergartens in Singapore and interviewed several teachers and principals of kindergartens.

kindergarten programme is so unique. It provides a wealth of satisfying learning experiences.

In short, the kindergarten programme should guide the pupils in a learning process that would offer the greatest growth commensurate with their potentialities in relation to their ages and needs.

Chapter 3

PRIMARY AND SECONDARY EDUCATION

This chapter deals with primary and secondary education in Singapore. First it documents the growth in enrolment from 1959 to 1969, together with the measures taken by the government to encourage that growth. Then it explores developments, administrative and curricular, related to the policies of language parity, national unity and industrialization.

I. INCREASING ENROLMENTS

When the People's Action Party took office in June 1959, the major educational problem facing the government was that of quantity, since every year more children were entering school. (See Table 5.) But at the same time, the problem of quality could not be ignored.[1] The educational problem, so the government decided, would be dealt with in the light of political and social needs. As a result of these considerations for the period under review, education, being financed almost entirely from state revenues, became the biggest item of the

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[1] Straits Times (Singapore), July 9, 1966, p. 5.

government's budget, reaching as much as 32 per cent of the national budget annually. In 1969, the annual expenditure on education cost the public 183.7 million Singapore dollars. This was nearly triple the 1959 annual expenditure on education which stood at 63,390,000 Singapore dollars.

Table 5

Annual Enrolment in Primary and Secondary Schools, 1959 to 1969

Year	School Enrolment
1959	320,977
1960	349,890
1961	375,838
1962	397,005
1963	426,045
1964	453,214
1965	477,408
1966	502,987
1967	517,885
1968	527,083
1969	519,362

Source: Ministry of Education, Annual Report 1967, (Singapore: The Government Printing Office, 1967).

Department of Statistics, Facts and Pictures on Singapore (Singapore: The Government Printing Office, 1968).

PRIMARY AND SECONDARY EDUCATION

The implementation of the first Five-Year Plan (1961-1965) gave priority to universal free primary education. The second Five-Year Plan (1966-1970) aimed at the expansion of secondary and higher education. Both plans required heavy expenditure on education.[2] Especially because of the low standard of living in Singapore, good teachers, a sound curriculum, efficient teaching equipment and fine school buildings were quite a burden on the national budget. Moreover, Singapore's population was increasing and had by 1969, reached 2.1 million. About 46 per cent of this population were 14 years of age and under.

Thus, in the period under review, almost 50 per cent of the population of Singapore was, at any one time, under the training and care of the Ministry of Education.

Free Primary Education

The first step the government took in the area of primary education was to make available a six-year free

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[2] T.R. Doraisamy (ed.), 150 Years of Education in Singapore (Singapore: Teachers' Training College, 1969), p. 78.

primary education to all children who were born either in Singapore or Malaya or were children of Singapore citizens and who were at least 6 years of age. Previously, primary education was provided free only to those pupils whose family was on welfare or who were of Malay descent.[3] Further, all pupils of Malay descent, born in Singapore or whose parents are Singapore citizens have been given free tuition from primary up to university level since 1960.[4]

School Building Program

To cope with the rapidly expanding school population, the Ministry of Education starting in 1961 built schools at the average rate of one school a month for seven years. As a result by 1969, there were sufficient primary school places for every child of school-going age for the next decade and so, the school building programme was allowed to lapse at that time.

Table 6 gives a break-down of the completed building programme from 1959 to 1969.

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[3] Ibid., p. 18.

[4] Ministry of Education, Annual Report 1961 (Singapore: Government Printing Office, 1961), p. 2.

Table 6

Number of Schools Built Between 1959 and 1969

Year	Primary Schools	Voc.Sec. Schls.	Acad.Sec. Schls.	Tech. Sec.Schls.	Mult. Schls.	Jr. Coll.	Total New Schls.	Other Maj. Extns. to Existing Schools
1959	1						1	
1960	4						4	1
1961	6		3				9	
1962	11	1	3				15	
1963	9	1	3	3			16	5
1964	6	6	5	4			21	1
1965	6	3	7				16	1
1966	7	1			6		14	7
1967	4				9		13	4
1968	1				1	1	3	2
1969	1	2					3	1
Total	56	14	21	7	16	1	115	22

Sources: Ministry of Education, Annual Report, 1959-1967 (Singapore: Government Printing Office, 1959-1967).
Department of Statistics, Singapore Facts and Figures, 1966-1969 (Singapore: Government Printing Office, 1966-1969).

Voc Sec. Schls. - Vocational Secondary Schools.
Acad. Sec. Schls. - Academic Secondary Schools.
Tech. Sec. Schls. - Technical Secondary Schools.
Mult-Lat. Schls. - Multi-lateral Schools.
Jr. Coll. - Junior College.
New Schls. - New Schools.
Maj. Extns. - Major Extentions.

PRIMARY AND SECONDARY EDUCATION

Table 6 demonstrates that there was only 1 school built in 1959, but a decade later, 115 schools of different types had been built and 22 schools had been extended. The government and government-aided school system was increased from 396 to 511 schools (see Table 7 for the stock of schools in 1969) during the period under review -- most of this growth occuring in the years 1961 to 1967.

Free Textbooks

In 1959 the policy of lending textbooks to pupils free of charge was extended to all four language streams in both government and government-aided schools. Previously, this had applied only to English language schools. This was done in accordance with the belief that no needy child should be denied education merely because of inability to buy textbooks. Table 8 shows that the annual expenditure on free textbooks increased from about $80,000 in 1959 to about $285,000 in 1969.

Bursaries

Mandatory free primary education was afforded to pupils born in Singapore and to those whose parents were Singapore citizens. Secondary students of high calibre

Table 7

Number of Schools by Levels of Education and Type of Schools, 1969

Type of Schools	Kindergarten				Primary				Secondary				Full				Technical				Vocational				All Schools			
	B	G	M	T**	B	G	M	T*	B	G	M	T	B	G	M	T	B	G	M	T	B	G	M	T	B	G	M	T
Government																												
Integrated	-	-	-	-	-	-	55	55	-	-	60	60	-	-	-	-	-	-	8	8	-	-	3	3	-	-	106	106
English	-	-	-	-	13	12	77	102	-	4	10	14	-	-	-	-	-	-	1	1	-	-	-	-	13	16	88	117
Chinese	-	-	-	-	-	-	7	7	-	-	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	11
Malay	-	-	-	-	-	5	29	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	29	34
Tamil	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Total:	-	-	-	-	13	17	170	200	-	4	54	58	-	-	-	-	-	-	9	9	-	-	3	3	13	21	236	270
Govt.-Aided																												
Integrated	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
English	-	-	-	-	7	6	-	13	1	2	3	6	3	14	1	18	-	-	-	-	-	-	-	-	11	22	4	37
Chinese	-	-	-	-	-	1	169	170	1	3	4	8	2	2	10	14	-	-	-	-	-	-	-	-	3	6	183	192
Tamil	-	-	-	-	-	1	9	10	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	1	10	11
Total:	-	-	-	-	9	8	179	194	2	5	7	14	5	16	12	33	-	-	-	-	-	-	-	-	14	29	198	241
Govt. & Govt.-Aided																												
Total:	-	-	-	-	20	25	349	394	2	9	61	72	5	16	12	33	-	-	9	9	-	-	3	3	27	50	434	511
Private																												
Integrated	-	-	15	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15
English	-	2	22	24	-	-	3	3	-	1	3	4	-	-	3	3	-	-	-	-	-	-	-	-	-	3	31	34
Chinese	-	-	8	8	-	-	4	4	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	13
Total:	-	2	45	47	-	-	7	7	-	1	4	5	-	-	3	3	-	-	-	-	-	-	-	-	-	3	59	62
Grand Total:	-	2	45	47	20	25	356	401	2	10	65	77	5	16	15	36	-	-	9	9	-	-	3	3	27	53	493	573

Source: Ministry of Education, Annual Report 1969 (Singapore: Government Printing Office, 1969).

* Excludes Singapore Technical Institute, Vocational Institutes, Industrial Training Centre and St. Joseph's Trade School.

* Includes National Junior College

** B=Boys; G=Girls; M=Mixed; T=Total

PRIMARY AND SECONDARY EDUCATION

Table 8

Annual Expenditure on Free Textbooks Versus Annual Student Enrolment, 1959 to 1969

Year	Free Textbook Expenditure	Student Enrolment
1959	$ 79,606.68	320,977
1960	85,608.84	349,890
1961	142,916.08	375,838
1962	134,154.65	397,005
1963	188,179.07	426,045
1964	218,056.78	453.214
1965	256,756.91	477,408
1966	261,207.73	502,987
1967	280,710.00	517,885
1968	281,200.00	527,083
1969	284,800.00	519,362

Sources: Ministry of Culture, Singapore: Facts and Figures (Singapore: Government Printing Office, 1970).

Ministry of Education, Annual Reports 1959-1967 (Singapore: Government Printing Office, 1959-1967).

might also apply for exemption from payment of school fees on grounds of hardship.[5] This scheme was in force before 1959.

Bursaries Prior to 1959

Before 1959 there were only two types of bursaries to secondary students that existed. They were: (1) the Secondary School Bursaries, worth $72 each per annum, and (2) the Island Bursaries, valued at $600 per annum each. Both bursaries were awarded to students who were financially and academically deserving. However, the former were awarded to students living in Singapore, while the latter were awarded to students living on islands off Singapore.

Developments Since 1959

When the government took office in 1959, it immediately took steps to extend the award of bursaries to those students enrolled in the two-year pre-university programme. These bursaries for the two years, were valued at $420 per annum.[6]

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[5]Ministry of Education, Annual Report 1967 (Singapore: The Government Printing Office, 1967), p. 10.

[6]Ibid.

PRIMARY AND SECONDARY EDUCATION

In 1963, the government introduced the award of Island Transport Bursaries and Bus Bursaries. The Island Transport Bursaries were worth $360 each per annum and granted to pupils living on the islands off Singapore. Bus Bursaries, valued at $40 each per annum were awarded to needy pupils living within the city or the surrounding countryside. Previously, bursaries were awarded only to pupils of academic merits and financial hardship. But after 1959, the new bursaries were different, they were available to all pupils who were poor.

Table 9 shows the steady increase in expenditures on bursaries each year under review. Expenditures in 1968 were fourteen times the expenditures in 1959.

Details of Increased Enrolment

There was a marked increase in the number of children enrolled in primary and secondary schools from 1959 to 1969 as Tables 10 through 13 show.

In 1959, there were 272,254 students in primary schools, 44,117 in secondary schools and 4,606 in pre-university classes. In 1969 there were 371,781 in primary schools, 137,354 in secondary schools and 10,227 in pre-university classes. The total size of school enrolment was 320,977 in 1959 and it reached 519,362 in 1969, an increase of 61 per cent. (See Table 11.)

Table 9

Annual Expenditure on Bursaries Tenable at Secondary Schools and Annual Enrolment of Secondary Schools, 1959 to 1969

Year	Expenditure on Bursaries at Secondary Schools	Enrolment of Secondary Schools
1959	$ 70,656	44,117
1960	81,819	53,796
1961	111,028	66,745
1962	205,840	69,023
1963	357,756	79,028
1964	399,674	93,841
1965	541,188	107,987
1966	786,128	124,082
1967	888,630	136,309
1968	985,318	140,743
1969	Not Available	137,354

Source: Doraisamy, T.R. (ed.), 150 Years of Education in Singapore (Singapore: Teachers' Training College, 1969), p. 69.

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Table 10

Annual Enrolment of Primary and Secondary Schools, 1959 to 1969

Year	Annual Enrolments	
	Primary School	Secondary School
1959	272,254	48,723
1960	290,576	59,314
1961	397,981	67,857
1962	324,697	72,308
1963	341,620	84,425
1964	353,622	99,592
1965	362,672	114,726
1966	370,899	132,088
1967	373,437	144,448
1968	379,828	150,251
1969	366,881	147,551 (as on July 1, 1969)

Source: T.R. Doraisamy, (ed.), 150 Years of Education in Singapore (Singapore: Teachers' Training College, 1969), p. 68.

Table 11

School Enrolment by Level of Education in Government Schools, Government-Aided Schools, and Private Schools, 1959 to 1969

Year	Government			Government-Aided			Private			Total			
	Primary	Secondary (**)	Pre-University	Primary	Secondary (**)	Pre-University	Primary	Secondary (**)	Pre-University	Primary (*)	Sec. (**)	Pre-U	Total*
1959	121,716	17,483	1,077	139,179	22,097	3,529	11,359	4,537	-	272,254	44117	4,606	320,977
1960	139,452	26,606	1,196	141,497	24,186	4,252	9,697	3,004	-	290,646	53796	5,448	349,890
1961	151,209	33,504	537	147,552	30,688	546	9,220	2,553	29	307,981	66745	1,112	375,838
1962	166,833	34,871	1,306	148,699	30,623	1,939	9,165	3,529	40	324,697	69023	3,285	397,005
1963	186,749	42,078	2,085	146,085	33,084	3,260	8,786	3,866	52	341,620	79028	5,397	426,045
1964	201,647	55,630	2,380	144,160	34,751	3,311	7,915	3,460	60	353,622	93841	5,751	453,214
1965	215,073	69,097	2,962	140,023	35,623	3,709	7,576	3,267	78	362,672	107987	6,749	477,406
1966	225,377	84,680	3,499	137,691	36,758	4,434	7,831	2,644	73	370,899	124082	8,006	502,987
1967	232,524	96,671	3,597	134,461	37,523	4,462	6,452	2,115	80	373,437	136309	8,139	517,885
1968	240,104	102,441	4,477	130,842	36,534	4,937	5,844	1,768	136	376,790	140743	9,550	527,083
1969	238,089	99,487	5,398	128,048	35,898	4,514	5,644	1,969	315	371,781	137354	10227	519,362

Sources: Ministry of Education, Annual Reports 1959-1967 (Singapore: Government Printing Office, 1959-1967).
Department of Statistics, Monthly Digest of Statistics (Singapore: Government Printing Office, 1969).

* Includes kindergarten enrolment.
(**):Excludes Pre-U)

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It must be pointed out that in both government and government-aided schools, the increase of students were steady. But in the private schools in both primary and secondary schools, the enrolment declined sharply. From 1959 to 1969, primary dropped from 11,359 to 5,644 while secondary enrolment went from 4,537 to 1,969. The main reason was that students usually had to pay more fees in these private schools. However, private school Pre-university enrolment increased from 29 in 1961 to 315 in 1969. (See Table 11.)

Table 12 indicates that in 1969, 66 per cent of the students were in government schools, 32.5 per cent in government-aided schools, only 1.5 per cent were in private schools. The Table also shows that 60.8 per cent of the students were in the English stream, 32.7 in the Chinese stream, 6.2 in the Malay stream and only 0.3 per cent were in the Tamil stream.

Table 13 illustrates that in 1969 there were 243,241 female students; 173,352 in primary schools, 68,609 in secondary schools; but there were 276,121 male students, 198,429 in primary schools and 74,532 in secondary schools. In short, there were 32,880 more male students than female students in the entire student population.

Table 12

School Enrolment by Type of Schools and Language Streams, 1969

Type of School	Stream of Education				Total
	English	Chinese	Malay	Tamil	
	Number				
Government	260,323	50,022	32,347	282	342,974
Government-Aided	49,448	117,699	-	1,313	168,460
Govt. & Govt.-Aided	309,771	167,721	32,347	1,595	511,434
Private	5,639	2,289	-	-	7,928
Total:	315,410	170,010	32,347	1,595	519,362
	Percentage				
Government	50.1	9.6	6.2	0.1	66.0
Government-Aided	9.6	22.7	-	0.2	32.5
Govt. & Govt.-Aided	59.7	32.3	6.2	0.3	98.5
Private	1.1	0.4	-	-	1.5
Total:	60.8	32.7	6.2	0.3	100.0

Source: Ministry of Culture, Singapore Year Book, 1969 (Singapore: Government Printing Office, 1969).

Table 13

School Enrolment by Level of Education in Government Schools, Government-Aided Schools and Private Schools, 1969

Level of Ed.	Type of School	Government				Government-Aided				Govt. & Govt.-Aided				Private				Total			
		Cls**	M	F	Total	Cls.	M	F	Total	Cls.	M	F	Total	Cls.	M	F	Total	Cls.	M	F	Total
Pre-Primary		-	-	-	-	-	-	-	-	-	-	-	-	175	2649	2251	4900	175	2649	2251	4900**
Primary I		890	18069	16783	34852	525	10330	9605	19935	1415	28449	26338	54787	7	60	43	103	1422	28509	26381	54890
Primary II		937	18718	17270	35988	527	10393	9595	19988	1464	29111	26865	55976	6	61	37	98	1470	29172	26902	56074
Primary III		942	19466	17819	37285	566	12179	10621	22800	1508	31645	28440	60085	9	69	55	124	1517	31714	28521	60235
Primary IV		1012	20720	19276	39996	569	12047	10121	22168	1581	32767	29397	62164	8	89	45	134	1589	32856	29442	62298
Primary V		974	19544	17612	37556	550	11231	9555	20786	1524	31175	27167	58342	9	89	47	136	1533	31264	27214	58478
Primary VI		995	19547	16980	36527	574	10260	8894	19694	1572	29747	25874	55621	7	85	60	145	1579	29832	25934	55766
Primary VI (repeat)		372	10233	5512	15745	46	2060	1151	3211	418	12293	6663	18956	-	-	4	4	418	12293	6667	18960
TOTAL:		6125	126837	111252	238089	3357	68490	59558	128048	9482	195327	170810	366137	221	3102	2542	5644	9703	198429	173352	371781
Vocational I		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vocational II		143	3156	1264	4420	2	4	16	20	145	3160	1280	4440	-	-	-	-	145	3160	1280	4440
TOTAL:		143	3156	1264	4420	2	4	16	20	145	3160	1280	4440	-	-	-	-	145	3160	1280	4440
Secondary I		697	14783	12796	27584	231	4291	4878	9169	928	19079	17674	36753	14	239	216	455	942	19318	17890	37208
Secondary II		670	13326	11249	24575	252	4578	5044	9622	922	17904	16293	34197	15	251	293	554	937	18155	16586	34751
Secondary III		614	11531	10090	21621	241	4168	4797	8965	855	16059	14887	30746	15	252	282	534	870	16311	15169	31480
Secondary IV		569	9470	9165	18635	215	3421	4063	7484	784	13091	13228	26319	9	124	174	298	793	13215	13402	26617
Secondary IV (repeat)		7	1127	965	2092	5	378	260	638	12	1505	1225	2730	2	76	52	128	14	1581	1277	2858
Pre-University I		72	1611	1234	2845	57	1166	721	1887	129	2777	1955	4732	6	66	120	186	135	2843	2075	4918
Pre-University II		79	1540	1013	2553	74	1503	1124	2627	153	3043	2137	5180	5	56	73	129	158	3099	2210	5309
TOTAL:		2708	53953	46512	100465	1075	19505	20887	40392	3783	73458	67399	140857	66	1074	1210	2284	3849	74532	68609	143141
GRAND TOTAL:		8976	183946	159028	342974	4434	87959	80761	168460	13410	271945	239489	511434	287	4176	3752	7928	13697	276121	243241	519362

Source: Ministry of Education, Singapore Annual Bulletin of Statistics, 1969 (Singapore: Government Printing Office, 1969).

*Includes Technical and Commercial Classes.

*Includes 293 boys and 274 girls of National Junior College, but excludes their classes.

**Registered Private Kindergartens.

**Number of classes.

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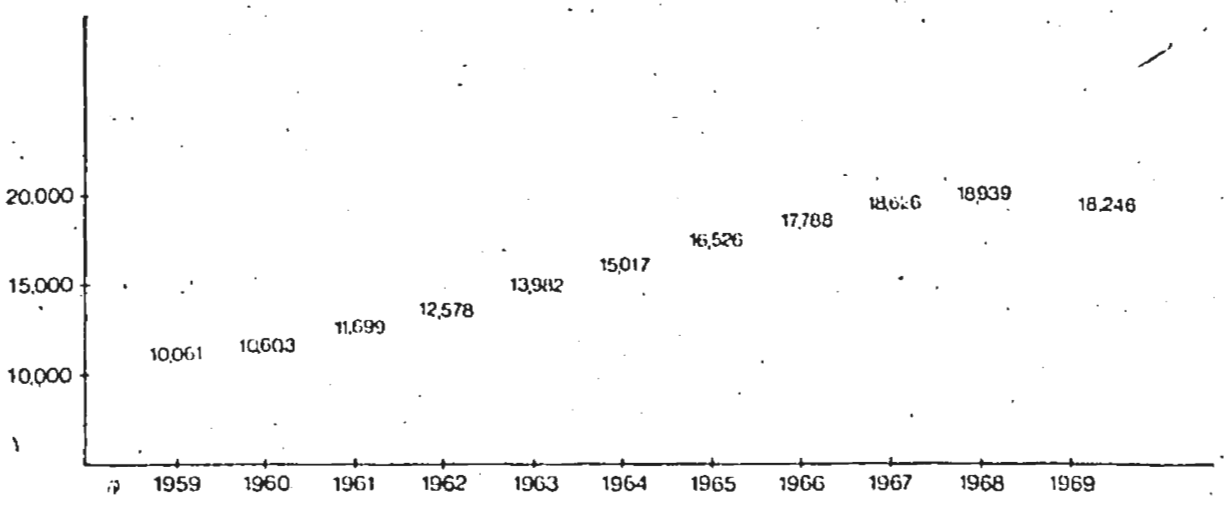
Increasing Teacher Supply

Corresponding to the increase in pupil enrolment the number of teachers increased over the years as shown in Figure 1.

Figure 1

Number of Teachers in Government and Government-Aided Schools, 1959-1969



Source: Ministry of Education, Annual Report 1969 (Singapore: Government Printing Office, 1970).

PRIMARY AND SECONDARY EDUCATION

As it was not possible to recruit trained teachers in large numbers from any source, it was necessary to resort to large-scale recruitment of teachers-in-training who while undergoing training at the Teachers' Training College assumed partial teaching responsibility in schools. Up to 1964, it was not possible to recruit a sufficient number of teachers-in-training with the requisite minimum qualifications.[7] However, since then, sufficient suitably qualified applicants had been appointed. Over the period 1954 to 1968, the student-teacher ratio dropped from 30.3 to 27.4, indicating that the original situation was even improved upon slightly despite the difficulty of staffing. (See Table 13 and Figure 1.) In 1962, the government accorded women teachers equal pay with their male colleagues. Through adjustemnts, lower salary scales for women teachers disappeared by 1965.

As a solution to the shortage of teaching staff the government introduced the Educational Television Service in 1967. This service had been emphasising

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[7] Ministry of Education, Annual Report 1964 (Singapore: Government Printing Office, 1964), p. 16.

subjects which could easily be presented through television and for which the supply of specialist teachers was inadequate. In 1969, there were a total of 15 programmes covering subjects like English literature, English as a second language, the national language, mathematics, science, geography and civics.

II. DEVELOPMENT RELATED TO LANGUAGE PARITY

The Four Stream Policy

Though the government had implemented its policies for equality of treatment, the difficulty in finding a job after graduation led to a sharp decline in enrolment for new Primary I classes in Chinese schools.[8] This problem provoked controversy amongst Chinese educational circles and institutions. In 1959 Chinese student enrolment fell behind English schools by 7.3 per cent, in 1967 the difference had widened to 25.1 per cent and in 1969, to 28.1 per cent.[9]

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[8]Doraisamy (ed.), op. cit., p. 98.

[9]New Nation (Singapore), June 7, 1971, p. 2.

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The Malay and Tamil streams had also failed to attract more pupils. Total enrolment had also dropped for the Malay schools from a peak of 7.0 per cent in 1967 to 6.2 per cent in 1969, while for Tamil schools, the percentage decreased from 0.5 per cent in 1959 to 0.3 per cent in 1969.[10] These two streams were plagued by the problems of ill-trained teachers, lack of suitable textbooks and the difficulty in securing employment by graduates unable to speak English fluently.[11] The latter reason alone makes inevitable the decline of the non-English single-stream school. Thus, there was a fundamental contradiction in government policy. On the one hand the government supported a four-stream model of education in order that parents might choose the language medium of education they desired, and on the other hand it encouraged industrial development based on English. Undoubtedly political necessity underlay the four-stream policy.

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[10] Ibid.

[11] M. Abdullah, "The Value of Malay Education in Singapore," Intisari, Vol. III, No. 1969, p. 10.

PRIMARY AND SECONDARY EDUCATION

The policy of industrialization was geared to a world market in which English is almost the international language. Naturally, English would become the more important language, thus, the policy of language parity came into conflict with the goal of industrialization.

The reduced emphasis on Malay as the national language in Singapore's educational policies in the late 1960's was a direct result of the desire for industrialization. In "A Message to the Singapore Malay Teachers' Union", Mr. K. Y. Lee, Prime Minister of Singapore, explained the reason for such change:

> This fundamental change in our policy of industrialization geared to a world export market and not to a protected Malaysian market had many consequences. One of them was its impact on education. It meant first that the emphasis would be on vocational and technical training, engineering and management. It also means more widespread use of English for this is the language of the investing industrialists, whether American, Japanese, Germans, Swiss, French or British ..... More and more parents have registered their children for the English stream schools. But despite successive campaigns (by newspapers, school unions, cultural groups) parents have continued to place the future careers of their children before any cultural or linguistic patriotism. This is mainly because they know that in an English school their children will learn their mother tongue as a compulsory second language.[12]

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[12] K.Y. Lee, "A Message to the Singapore Malay Teachers' Union," The Mirror (Singapore), April 17, 1972, p. 8.

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The national language is related to low socio-economic status. As S. Ahmat stated: "the fact still remains that Malay school leavers command no economic value."[13]

Evidence for differences in the earning potential of Chinese-educated and English-educated, reveals a similar pattern.[14] If the economic trends continue in the same direction and parents continue to submit to the economic imperative, the four stream model of education will diminish even more.

Both the Malay and Indian communities had given up hopes for the four stream model, because they found their education could not solve the community problems of backwardness and low economic power. They were prepared to accept the present role of English but the Chinese were not prepared to dissolve the Chinese stream because in English schools, Chinese would be a third language, after English and Malay the National language.[15]

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[13] S. Ahmat, "Singapore Malays, Education and National Development," Malay Participation in the National Development of Singapore, December 2, 1971, p. 9.

[14] Department of Statistics, Report on Civil Service Statistics (Singapore: Government Printing Office, 1967), pp. 2-8.

[15] C.K. Lee, "Choice of Education Among the Singapore Chinese" (unpublished Academic Exercise Paper, University of Singapore, 1967). (Mimeographed.)

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Due to the reported low economic value of Tamil on the job market and the fact that Indian languages could be studied as a second language in the English schools, there would probably be no serious resistance from the Indians to the abandonment of the four-stream model.[16]

It has been suggested that in order to remove the limitations of the four-stream model, it would be necessary to stress and provide at primary level the best that was available in language teaching methods, facilities and staff. The existing integrated primary schools (that is schools with more than one stream in them) forms the basis for a pilot study. The results of this study, which is aimed to equip a child with strong language skills for continual learning, will be evaluated and applied where relevant. If all this leads, as planned, to creating competent bilinguals by the last stages of primary and secondary education, it will result in better opportunities for economic success and improved national unity.

Subjects like history, geography and civics could be taught in the mother tongue. English would be taught

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[16]Ministry of Education, Commission of Inquiry Into Education in Singapore, Final Report, 1963, (Singapore: Government Printing Office, 1963), p. 17.

both as a language and used as instruction media in science and mathematics. Physical education, arts, music and activities that were extra-curricula in nature ought to be conducted in Malay as this would provide a means of satisfaction, by implementing the policy of having Malay as the national language. Educational television programmes should be used to reinforce and enrich language related activities so as to bring about satisfactory language competence. An increase in the exposure time for the second language at all levels would make it a "parallel language."[17]

The problem of textbooks was recognized to be extremely important.[18] As the different streams of schools were allowed to develop on their own, they based their curriculum, teaching method and textbooks on the country of origin. It was not surprising that in the early 1950's many teachers were recruited abroad.

Therefore, the Educational Advisory Council was set up in 1959. It, in turn formed a Textbooks and Syllabuses Committee to draw up syllabuses with a common

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[17] Straits Times (Singapore), Ocotber 20, 1972, p. 5.

[18] Berita Harian (Singapore), June 2, 1961, p. 5.

content in all the four language streams.[19] The tasks given to this Committee were to make syllabuses suitable to the environment and experience of pupils and aimed at cultivating national consciousness in schools.

Nineteen syllabuses of pre-1959 vintage were revised. By the end of the year new syllabuses for all school subjects were published in the four language media. Having done this, the Committee then reviewed a number of school texts and drew up the first list of books recommended for use in all schools. In 1962, ten syllabuses for Chinese Language, Chinese Literature, Malay, Mathematics, Physics, Chemistry, Biology, History and Geography for Chinese Upper Secondary schools were prepared. In keeping with the national drive towards industrialization, syllabuses in technical subjects were drawn up for metalwork, woodwork and technical drawing. Eleven syllabuses for Secondary Vocational Schools were also revised. By 1963, the first educational syllabuses for the new technical schools appeared. By 1964 there were altogether 32 syllabuses compared to 19 before 1959. To meet the demand of modern education and society, more new syllabuses have been added.

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[19] New Nation (Singapore), April 10, 1971, p. 9.

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School curricula and syllabuses were then determined by the Ministry of Education and common syllabuses were followed in the four language streams whenever possible.[20]

It was in the spirit of parity the newly-elected government of the People's Action Party set out to implement a dynamic education policy which embodied these three-fold aims.[21] The government translated this policy into action with an unprecedent vigour and sense of mission. Simultaneous registration of children to Primary I in all the four streams was carried out for the first time in 1960. Thereafter, all the primary and secondary school-leavers in the four streams had to take the common examinations that were conducted by the Ministry of Education.

This very step led to the achievement of a uniform Primary 6, Secondary 4 or School Certificate and

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[20] People's Action Party, People's Action Party 4th Anniversary Celebration Souvenir, 1958 (Singapore: People's Action Party Press, 1958), p. 21.

[21] Ministry of Education, Annual Report 1962, (Singapore: Government Printing Office, 1963), p. 1.

Higher School Certificate. This reform, however, was not carried out without misunderstanding. In November 1961, a boycott of the secondary Four Chinese Examination was organized but the majority of the students, about 70 per cent, sat for the examinations.

Protest was not unique of the Chinese stream alone.[22] In 1962, misunderstanding of the type of examination to be taken led to a boycott by Malay pupils of Menengah III and IV of the Geyland Craft Centre.[23] The Annual Report for 1962 stated that the boycott was due to political misguidance, and it implied that the dissatisfaction was inspired by the United Malays National Organization. The pupils were eventually persuaded to write their examination.

Integrated Schools

The integrated school had been described as a constructive effort at building up a new unified national identity while preserving the individual cultural

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[22] Straits Times (Singapore), May 28, 1962, p. 2.

[23] Ibid., April 8, 1963, p. 5.

traditions of the different groups of the population.[24]

From 1960 to 1967 the government, pursuing the policy of social cohesion through education, merged two or more different language streams (English-Chinese, English-Malay, English-Chinese-Malay) in 84 schools. The purpose of integration was "to foster, through joint participation in sports and other extra-curricular activities, better understanding between students of different streams."[25]

Towards the end of 1959, the Government planned to start integration of the Chinese and English media secondary schools. The aim was to bring secondary schools using two different language media into one building under one principal, using one common curriculum in the two languages. The actual integration was started in 1960 at Bukit Panjang School and Serangoon Garden School. Because of common curriculum, shared premises, common physical amenities, joint participation in all extra-mural

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[24]W. Franke, "Problems of Chinese Education in Singapore and Malaysia," Malaysian Journal of Education, vol. 11, No. 2, 1962, pp. 5-10.

[25]Ministry of Education, Commission of Inquiry Into Education in Singapore, 1960 (Singapore: Government Printing Office, 1964), pp. 4-15.

activities and increased numbers of extra-curricular activities, the barriers between pupils of different language streams showed signs of breaking down. Integrated schools had the added advantage of facilities better than those in many vernacular schools and similar to those in the English language schools.

The Singapore Malay Teachers' Union was reported as saying that the integrated school would not lead to unity as there was no 'true social intercourse'[26] and later evidence seems to support their position to some degree.

In 1970 K. S. Kay did a study which threw some light on the results attained by the policy of integrated schools.[27] The primary findings of this study were:

1. Fewer than one quarter of Singapore's 506 schools were integrated.

2. Integration efforts were mainly concentrated in newly built schools.

3. About 34 per cent (173,307 out of a total of 509,665) of the pupils were in integrated schools. The Malays were the most heavily integrated and

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[26] Straits Times (Singapore) April 26, 1962, p. 8.

[27] K. S. Kay, "Life in School Survey" (unpublished Academic Exercise Paper, University of Singapore, 1971). (Mimeographed.)

only 16,334 out of a total of 166,495 Chinese medium pupils were in integrated schools. Only 27 per cent (100,431 out of a total of 365,551), of the primary pupils were in integrated schools.[28]

4. At the secondary school level, 50 per cent (72,876 out of a total of 144,114) of pupils were in integrated schools. The Malays were fully integrated and half of the Chinese medium pupils were integrated.[29]

5. The largest number of integrated schools were English-Chinese, followed by English-Malay schools. There were four English-Chinese-Malay schools.

The study concluded that:

1. In the integrated schools studied, contacts between the two language streams tended to create and reinforce prejudice. This seemed due to a number of factors: the superior numbers and advantages for the English-educated component, the insufficient awareness by the pupils, teachers and principals of common goals, and failings within the authority structure. Many principals and teachers were not fair or firm regarding integration. There was insufficient time and opportunities for the two language streams to mix except largely at recess and school assemblies.

2. Integration makes little difference in improving the functional linguistic capacity of the students.

By 1969 all new schools being built were integrated ones. (See Table 14.) However, no decision had yet been

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[28] Ibid.

[29] Ibid.

Table 14

Number of Schools and Students in the Government Integrated School System, 1969

Type of Integration	No. of Schools	No. of Students
English/Malay	26	39,047
English/Chinese	67	104,555
English/Tamil	2	3,866
Malay/Chinese	1	406
English/Malay/Chinese	10	18,197
Total	106	166,071

Source: Ministry of Education, Singapore Annual Bulletin of Statistics, 1969 (Singapore: Government Printing Office, 1969).

made to convert existing single-stream schools to integrated schools. Also, within integrated schools, especially if non-English speaking students were to gain maximum benefit, further steps would have to be taken to bring about greater integration of the two streams.[30]

Some of the shortcomings in the system were due to a lack of cultural and linguistic mixing among the students and consequently a failure to structure into the system these factors that would promote effective integration.[31] For instance, it is obvious that in any integrated school the principal and senior assistants would have to be bilingual. However, this was rare in the integrated schools studied. Not only that but some schools streams were segregated in terms of floors and while there was some transfer of staff, mainly language teachers, little or no flexible arrangements for pupils to share lessons existed in most schools. Only a minority of integrated schools had literacy and cultural societies

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[30]The integration of primary schools were perhaps of more benefit for national unity than the integration of secondary schools. At the primary school level, children were younger and that was the ideal period to inculcate the idea of national unity.

[31]Straits Times (Singapore), December 11, 1969, p. 6.

that were integrated. In sports and informal groups, the almost unrestricted pattern of mixing occurred.

Bowker considers the role of teachers in integrated schools important:

> .... the extent to which any school or school system is likely to be effective in reducing inter-group conflict will largely depend on how it is able to insulate itself from wider community patterns of tension and hostility - in this the attitude of teachers will be of great significance. [32]

However, Kay's study found that in most of the integrated schools, the teachers' common room, which should have been a model in inter-racial mixing, was often divided along linguistic lines. Little deliberate effort was put into making teachers the integrative models that pupils can be persuaded to emulate.[33]

Developing Bilingualism

Other attempts to develop bilingualism. Policies regarding bilingualism are a constant theme in Singapore's educational history.[34] Before 1956,

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[32] G. Bowker, Interaction, "Inter-Group Conflict and Tension in the Context of Education," International Social Science Journal, Vol. XXIII, No. 4, 1971, P. 545.

[33] K. S. Kay, "Life in School Survey" (Unpublished Academic Exercise Paper, University of Singapore, 1971), pp. 3-20.

[34] D. Murray, "Education and Multi-Lingualism in Singapore," Singapore: Central Library, University of Singapore, 1971. (Mimeographed.)

efforts in this area focussed on teaching English as a second language in vernacular schools; in 1956 the All-Party Report idealistically advocated bilingualism and trilingualism and the political needs of the early 1960's saw the endorsement of Malay as the national language. In spite of the full support that was given to the teaching of languages the results left much to be desired.[35] This was not due to any lack of enthusiasm but to a failure to understand the educational implications of language policies.[36]

A compulsory subject for all students taking the Primary School Leaving Examination and the study of a second language had been made compulsory in secondary schools since 1966.[37]

Emphasis had been placed in the past on learning a second language, but because of examination pressure from

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[35] Y. H. Gnell, "Multi-racialism and Education," Singapore: Central Library, University of Singapore, 1971. (Mimeographed .)

[36] J. Spencer (ed.), "The National Approach to Education Policy," People's Action Party 4th Anniversary Celebration Souvenir, 1958, pp. 7-15.

[37] Utusan Zaman, (Singapore) April 15, 1956, p. 2.

other subjects, it was relegated to optional status. By making it compulsory, the expectation was that the study of the second language would be taken seriously.[38] In 1969, it was decided that second language papers would be set and marked at a level two years below that of the student's first language.

In spite of a long history of second language teaching there was just insufficient time allowed in the school time table for the learning and use of the second language. The normal six periods a week of approximately 35 minutes' duration totalled only about 140 hours of teaching a year. Some writers believed that, while exposure time was an important factor in promoting effective bilingualism, the policy of teaching subjects in the second language itself needed some consideration.

Using the second language as the medium of instruction.

In 1966, strong attempts were made to encourage the use of the pupil's second language as his medium of instruction in other subjects.

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[38] P. B. Ong, "Towards a National Education System," PAP 10th Anniversary Souvenir, Singapore, 1964, pp. 223-225.

PRIMARY AND SECONDARY EDUCATION

In all primary and secondary schools, the first language of instruction might be Malay, Chinese, Tamil or English. Where Malay, Chinese or Tamil was chosen as the first language (language of instruction), English was the second language. Where English was the first language, the second language might be one of the other three official languages.

As Table 12 indicates that in 1969, there were 315,410 students (60.8 per cent) who chose English as the first language of instruction, 170,010 (32.7 per cent) chose Chinese, 2,347 (6.2 per cent) chose Malay and only 1,595 (0.3 per cent) chose Tamil.

In 1966, mathematics was taught in English on an experimental basis in government Chinese-medium Primary I to IV classes and in Malay-medium and Tamil-medium Primary I and II classes. The same language was used for the first time in 1968 for the teaching of science in government Chinese-medium Primary I classes and in all Malay-medium and Tamil-medium Primary I classes. In 1969 this practice was extended to government Chinese-medium Primary II classes, Malay-medium Primary II classes, Tamil-medium Primary II classes and a number of government-aided Chinese-medium Primary I classes. English was also used

for the first time in 1969 to teach woodwork, metalwork and basic electricity in Malay-medium and Tamil-medium Secondary I classes. For students whose second language was Malay, Chinese or Tamil, these languages were being used to teach civics and history. In 1968 civics was taught in Chinese to English-medium Primary III to VI students whose second language was Chinese. This practice was extended to English-medium Secondary I to IV classes in 1969. The first language remained the medium of instruction for civics in non-English-medium schools.

Table 15

Number of Second Language Teachers and Students in the Four Streams of Schools

Second language	No. of teachers*	No. of students
Malay	600	82,851
Chinese	1,350	205,752
Tamil	128**	16,215
English	1,500	199,731
Total	3,578	504,549

Source: Ministry of Education, Singapore Annual Bulletin of Statistics, 1969 (Singapore: Government Printing Office, 1969).

* These are estimate figures.

** Includes 2 Colombo Plan experts.

The rationale for this change was that by using the second language as a medium of instruction, children would be exposed to the language for a much longer period and would be compelled to use it in spoken and written communication. It was also claimed there was no basis for fear that this policy would lead to a lowering of standards in the first language and in subjects taught in the secondary languages.[39]

However, a demand to reverse this policy came from the Chinese School Teachers' Union. They argued that subject teaching in the second language had placed a great strain on students with a low linguistic aptitude.[40] The Union proposed that second language be used in subjects like art, music and physical education, that the teaching periods for second language be increased and be made equal for the four streams. Another reason that the reversal was demanded was the fear of redundancy among Chinese educated mathematics and science teachers.

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[39] Straits Times, (Singapore), December 13, 1968, p. 3.

[40] R. Wong, "New Emphasis in Education," Singapore in the 70's, November 1, 1970, pp. 27-32.

PRIMARY AND SECONDARY EDUCATION

Macnamara revealed that the "teaching of mathematics; at least, through the medium of the second language does not benefit the second language, while it has a detrimental effect on childrens' progress in mathematics."[41] Mallerbe concluded that in subjects like arithmetic where language did not play such a big role the initial handicap was smaller than in subjects like geography and history where language played a greater role both in communication to and in expression by the pupil.[42] Out-of-school contact with the second language was a good motivation for second language learning. But the influence of such factors could not be moderated by the school. The school and the Ministry could only try to ensure that teachers were sufficiently trained.[43] Many teachers who joined the service were not expected to teach subjects in a language different from the one in which they were trained and had pupils whose main medium of instruction was some other language.

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[41] J. Macnamara, Bilingualism and Primary Education: A Study of Irish Experience (Edinburgh: Edinburgh University Press, 1966), p. 137.

[42] E.G. Mallerbe, Bilingualism in Education (London: H.M.S.O. 1965), pp. 13-14.

[43] The Singapore Herald (Singapore), January 23, 1971, p. 4.

Many teachers had not been trained to teach in the second language. There was bound to be doubts among these teachers regarding their abilities and resentment against such enforced change. This could affect their effectiveness as teachers. The ministry had to resolve this and other problems before the policy of second language subject teaching could be successful.

Another problem was that there were inadequate materials specially prepared for second language teaching in science and mathematics. If meaningful progress was to be made, a greater range of material should be considered essential. Because the students had difficulty in understanding the new language of instruction, the immediate comprehension of the material would be less and achievement would be lower. These subjects taught in second language should be included in the examinations, otherwise it might lead to a severe lowering of levels of attainment.[44]

The policy of bilingualism: an assessment. Bilingualism was Singapore's educational policy since 1959 but apparently no successful formula for the

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[44]Y.H. Gwee, "Challenge of the Seventies," Education and Social Change, May 1, 1970, p. 63.

teaching of second language was found, a view echoed by both Chinese and English teacher's unions.[45]

One of the causes was that many people were ignorant of the complexities of the language situation in Singapore. The first prerequisite for an effective language policy would have to be an adequate socio-linguistic survey of the island designed to provide information about the various ways in which "language use may intermesh with social attitudes and behavior patterns and how individual languages are ranked and used by citizens."[46] Without such a language "map" it would hardly seem possible to set meaningful objectives for language teachers or to evaluate results.

There appeared to be no adequate definition of what was meant by bilingualism in the Singapore context. It seemed as if equilingualism was implied. This term was used by linguists to mean that the speaker was equally proficient in two languages and this was a skill mainly developed by linguistically talented individuals

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[45] New Nation (Singapore), October 19, 1972, p. 7.

[46] Frank A. Rice (Ed.), Study of the Role of Second Languages in Asia, Africa and Latin America (Washington: Centre for Applied Linguistics, 1962), p. 16.

who began young and who continued to use the second language for a variety of purposes.

Some teachers failed to realise that the majority of Chinese pupils spoke dialects, therefore, to many Chinese pupils Mandarin was not the mother tongue and English was the third and not the second language.

Despite these problems the overall picture of the effectiveness of the bilingual policy was not a totally gloomy one. Since the last decade, the number of students who could be classified as being bilingual has risen.[47]

Studies done by Chiew[48] and Dr. MacDougall indicated that respondents saw a high degree of tolerance towards racial and linguistic groups in Singapore. This can be taken as some evidence of the effectiveness of the government's language policies and the policy of bilingualism. One might conclude that unsatisfactory teaching of languages as second languages was due to a shortage of qualified teachers, insufficient numbers of

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[47] J.A. MacDougall, The Genuine Singapore Revolution (Singapore: University of Singapore, 1971), p. 27.

[48] S.K. Chiew, "Singapore National Identity" (unpublished thesis, University of Singapore, 1972), pp. 8-19.

hours alloted, variation in methods of instruction, lack of interest on the part of pupils and parents, unsuitable textbooks and an absence of the use of modern teaching aids. Therefore it might be necessary to set up a Language Teaching Research Unit to do research on the problems of language teaching.

Examinations for Primary and Secondary Schools

Examinations prior to 1959. Prior to 1959 examinations were administered only at the end of primary school, and at the end of secondary school. At the end of primary school there was the Secondary School Entrance Examination, the purpose of which was to screen pupils for secondary school. It was administered in the English medium only.[49]

At the end of secondary school, English medium students wrote the Cambridge Higher School Certificate Examination for entrance into universities at home or abroad. Chinese medium students at the end of secondary school wrote the Senior Middle III Examination mainly for entrance into Nanyang University, and universities abroad.

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[49] Statement by H.C. Lee, personal interview, 1971.

PRIMARY AND SECONDARY EDUCATION

Developments in examinations since 1959. To foster parity, examinations were developed for other language groups. At the end of primary school examinations have since 1960, been conducted in all four official languages under the name of the Primary School Leaving Examination. The intended effect was to allow more students to qualify in the Malay, Tamil and Chinese streams for secondary school.

At the end of four years of secondary school, the Secondary IV School Certificate Examinations have, since 1961, been conducted in each of the four official languages. Those who passed, could then enrol in Teacher's Training College, the Singapore Polytechnic College, pre-university classes and Ngee Ann Technical College.

Finally, the Higher School Certificate Examinations were introduced to screen entrance into university. In addition to the previously existing Cambridge Higher School Certificate Examination (English) for English medium students, there were introduced in 1963 the Government Higher School Certificate Examination (Chinese) for Chinese medium students, and in 1966 the Cambridge Higher School Certificate Examination (Malay) for Malay medium students. There was no Higher School Certificate

Examination for Tamil stream, because Tamil education had not expanded owing to lack of demand.

The total number of candidates who sat for the various examinations grew from 1959 to 1969.

Table 16 illustrates this growth:

Table 16

Number of Candidates for the Primary and Secondary School Examinations During the Period 1959 to 1968

Year	Number of candidates
1959	38,406
1960	52,089
1961	72,288
1962	78,631
1963	82,798
1964	95,065
1965	111,679
1966	121,349
1967	137,926
1968	150,792

Source: Ministry of Education, Annual Reports, 1959-1969 (Singapore: Government Printing Office, 1959-1969).

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Table 17 reveals that in 1968 there were 8,185 candidates who sat for the Higher School Certificate Examination; 115 wrote for the Malay medium, 3,353 for the Chinese medium and 4,717 for the English medium. Compared with the Chinese medium and English medium, the Malay medium had the least number of candidates, 115, and also the lowest percentage (20.0 per cent), that obtained full certificate.

Summary

At first glance, all the students received equal treatment. They all were allowed to go to the school of their choice, they enjoyed the common content syllabuses, they had the same pupil-teacher ratio requirements and they sat for the same levels of examinations which were conducted in different streams. However, not all the students from the vernacular schools had equal opportunities for employment as compared with students from the English stream.[50] As noted before, this helped to defeat the policy of equal treatment.[51]

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[50] Sin Chew Jit Poh (Singapore), January 7, 1961, p. 6.

[51] Ibid., p. 8.

Table 17

Number of Candidates who Took the Higher School Certificate Examinations in the Three Language Streams, 1968.

Examination	Type of candidate	Total no. sat	No. obtained full cert.	No. obtained GCE/statement of success	Total no. passed	Percentage obtained full cert.
Cambridge Higher School Certificate (Malay Medium)	Government schools	38	15	23	38	39.5
	Private	77	6	67	73	7.7
Government Higher School Certificate (Chinese)	Govt. & govt.-aided schools	2,286	1,149	1,122	2,271	50.3
	Adult Ed. Board	544	52	271	323	15.1
	Private	723	72	583	655	10.0
Cambridge Higher School Certificate (English)	Govt. & govt.-aided schools	1,691	1,197	493	1,690	70.8
	Adult Ed. Board	1,244	346	866	1,212	27.8
	Private	1,782*	180	1,446	1,626	11.4*

Source: Ministry of Education, Annual Report 1968 (Singapore: Government Printing Office, 1968).

* 1,574 sat for the examination leading to the award of a full certificate.

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III. EDUCATION FOR NATIONAL UNITY

The National Language

On the national language issue, it was felt that one of the many motives to accept Malay as a national language was a political one.[52] The implication was that merging could not succeed if Singapore ignored the role of Malay, and it could not expect the people of the Federation to show any enthusiasm for merger with Singapore, if Singapore's education policy was based on principles which were opposed to those which obtained in the federation with Malaysia.

Since Malay was established as the national language of Singapore, all the schools and the Adult Education Board placed great emphasis on it with the major aim to cultivate a national outlook.[53] The policy of making Malay the national language still retained after Singapore because independent of Malaysia.[54]

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[52] People's Action Party, The Tasks Ahead: The People's Action Party's Five Year Plan 1959-1964, (Singapore: People's Action Party, 1959), p. 4.

[53] Victor Purcell, Malaysia (London: Thames and Hudson, 1965), p. 132.

[54] Berita Harian (Singapore), November 15, 1960, p. 5.

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In spite of the full support that had been given to the teaching of the national language, the results were still unsatisfactory.

The Utusan Zaman put it, "the extensive use of English in business fields in this colony is not because the Malay language cannot be used yet, but because of the government's policy in giving more priority to English."[55]

Textbooks for National Consciousness

It was in the area of curriculum and textbooks that the greatest hopes were placed for fostering national unity:

> Textbooks ... also fulfil the function of fostering among their readings greater mutual appreciation of the different strands that form the cultural fabric of our society. Authors and publishers should not merely take the negative attitude of avoiding any evidence of racial discrimination and prejudice in their works; a more positive role would be to incorporate wherever possible suitable textual and illustrative materials that could help to create more mutual understanding and appreciation, greater tolerance and goodwill among the potential readers ... local authors could play a more positive role by making appropriate references and allusions to local conditions and factors

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[55] Utusan Zaman (Singapore), April 11, 1965, p. 5.

> and by consciously emphasizing points of view more in conformity with the spirit of the times and with our national needs and aspirations. [56]

History and civics syllabuses and texts came under close scrutiny. The Educational Publications Bureau, a government-supported publishing office, published books in these two subjects which were available in all the four languages. It was the first time that a national ideology complete with heroes was recorded in the history books. By 1969, most of the textbooks used in schools revealed the multi-cultural nature of Singapore. These policies coupled with the fact that a common curriculum was followed in all schools, were seen as an answer to the problems of fostering a cultural identity.

It is debatable that a common content curriculum, bilingualism and Singapore-oriented textbooks used as a tool in the nation-building process could be an adequate answer to the problem of fostering a culture that would appeal and be accepted by the various ethnic groups in Singapore. Between the English-educated and non-English educated there was a big cultural gap. Rapid urbanization,

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[56] P.B. Ong, "Works on the Problems of Books Production and Distribution in Singapore,"* Perpustakaan, Vol. 1, No. 2, May 1967. p. 78.

* Perpustakaan is a Malay word meaning publisher.

cultural transformation and the emerging ethos of a technology-oriented society was taking place at a bewildering pace, regardless of the assertion that the traditional cultures helped "maintain the fabric of our society intact in spite of all the current madness around the world".[57] The school system was an important socializing medium, but it was only one of the many, and the transformation of the wider society cannot help but impinge upon the school. Though common-content syllabuses existed they were devised with the limited subject teaching aims that characterized most syllabuses and not with the broader, more positive role seen by Mr. Ong. However, a survey of national identity done by Chiew Seen-Kong found that: seven in ten students preferred to be called Singaporean rather than their ethnic group; six in ten students chose Singapore as a country they would most like to live in; and five in ten gave Singapore their choice for a home.[58]

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[57] K.Y. Lee, "Traditional Values and National Identity," Mirror, Vol. 8, No. 47, 1972, p. 5.

[58] S.K. Chiew, "Singapore's National Identity" (unpublished thesis, University of Singapore, 1972), p. 22.

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IV. EDUCATION FOR INDUSTRIALIZATION

The government embarked upon a major drive to industralize Singapore in 1961. The object was to create more jobs for the growing population to generate economic growth and improve living standards.[57] The answer as to how to succeed in achieving these objectives was the formulation of an alternative curriculum of education which provided education and training geared to the demand of an industralized society.[58]

Any programme of industralization was unlikely to meet with success unless there was an adequate supply of skilled manpower trained in science, technology and management.[59]

Primary Education

Technical education was not introduced in primary schools which, however were encouraged in setting up

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[57] K. S. Goh, "Foreword," The Singapore Manufacturers' Association, December 1, 1969, p.1.

[58] Sin Chew Jit Poh (Singapore), December 6, 1971, p.5.

[59] Straits Times (Singapore), January 30, 1970. p.8.

laboratories and making general science an examination subject for primary school leavers. Table 18 indicates that from primary I to primary VI, science and mathematics occupied more than one quarter of the total hours spent per week in the primary subjects.

Secondary Education 1959-1969

Since 1959, Singapore's educational programme has emphasized the importance of vocational, technical and scientific education.[60] (See Tables 19, 20.) In 1960, a team was sent to Israel to study the system of vocational and technical education in that country. Then in October 1961, a Commission of Inquiry into Vocational and Technical Education in Singapore was appointed. A number of recommendations of the Commission have since been implemented.[61] This resulted in the division of Singapore's secondary education into three main types: academic-type education, vocational education and technical education.[62]

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[60] Ministry of Education, Annual Report 1960 (Singapore: Government Printing Office, 1960), p.8.

[61] Ministry of Education, Annual Report 1961 (Singapore: Government Printing Office, 1961), p.15.

[62] Doraisamy (ed.), op. cit., p. 68.

Table 18

Number of Hours Spent Per Week in the Subjects at the Primary School Levels

Subjects	No. of hours spent per week*			
	Pr. I & II	Pr. III	Pr. IV	Pr. V & VI
First language	6 5/6	6 5/12	5 5/6	5 11/12
National language	-	1/2	7/12	7/12
Second language	3 1/2	3 1/2	3 1/2	3 2/3
History	-	1 1/6	1 1/6	1 3/4
Geography	-	1 1/6	1 1/6	1 3/4
Science	1 1/2	1 3/4	2 3/4	2 1/3
Mathematics	3 1/2	3 1/2	3 1/2	4 1/2
Art, handwork and needlework	2	1 3/4	1 1/6	1 1/6
Music	1	1	1	7/12
Civics	1/2	1/2	7/12	2/3
Physical education	1 1/2	1 1/6	1 1/6	1 1/6
Assembly	1/2	1/2	1/2	1/2
Total	20 5/6	22 11/12	22 11/12	24 1/6

* Minor adjustments are made by the schools where necessary.

Source: Ministry of Education, Annual Report 1961 (Singapore: Government Printing Office, 1961).

Table 19

Number of Hours Spent Per Week in the Common Secondary I and II Curriculum.

Subjects	No. of hours per week*		
	Boys	Girls	
		Taking tech. subjects	Not taking tech. subjects
First language and literature	5	5	5
Second language	3 3/4	3 3/4	3 3/4
National language	1 1/4	-	1 1/4
Mathematics	3	3	3
Science	3 3/4	3 3	3 3/4
Physical education	1 1/4	1 1/4	1 1/4
Civics	2/3	2/3	2/3
Assembly	2/3	2/3	2/3
History Geography	2 1/2	2 1/2	2 1/2
Domestic Science	-	1 1/4	**3
Art and crafts	1 1/4	1 1/4	1 1/4
Music/singing	7/12	7/12	7/12
Technical drawing	1 1/4	1 1/4	***(1 1/4)
Metalwork Woodwork Basic electricity	**3	*3	-
Total	28	28	28

* Minor adjustments are made by schools where necessary.

** Normally outside school hours.

*** The principal has the discretion to allocate the time to history and geography or to any other subject other than general science and domestic science.

Source: Ministry of Education, Annual Report 1961, (Singapore: Government Printing Office, 1961).

Table 20

Number of Periods and Hours Spent Per Week on the Revised Secondary III and IV Curriculum - Non-Technical Stream

Subjects	Periods per week	Hours per week
A. Compulsory examination subjects	26	16½
1. First language		
2. Second language		
3. Literature or history or geography		
4. A science subject		
5. Elementary mathematics*		
B. Compulsory non-examination subjects	6	3½
1. Civics/current affairs	2	
2. Physical education	2	
3. Assembly talks	1	
4. Musical appreciation/singing	1	
C. Elective examination subjects**	9	6
1. Literature		
2. Geography		
3. History		
4. Bible knowledge***		
5. Islamic religious knowledge		
6. Third language		
7. Additional mathematics+		
8. General science++		
9. Physical science++		
10. Physics		
11. Chemistry		
12. Biology		
13. Art and crafts		
14. Music		
15. Needlework and dressmaking		
16. Cookery		
17. General housecraft		
18. Health science		
19. Commercial studies+++		
20. Commerce		
21. Principles of accounts		
Total	41	26

Source: Ministry of Education, Annual Report 1961 (Singapore: Government Printing Office, 1961).

* Elementary mathematics is optional for students taking a total of 6 examination subjects.

** Special approval is required for 3 electives and not more than 2 science subjects (including A4) are to be taken.

*** No. 4 may not be taken with No. 5.

\+ No. 8 may not be taken with No. 9.

++ No. 9 may not be taken with No. 8 or No. 10 or No. 11.

+++ No. 19 may not be taken with No. 20.

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From 1963, successful pupils in the Primary School Leaving Examinations were posted to Academic Secondary Technical and Commercial Schools while the unsuccessful over-aged candidates were posted to Secondary Vocational Schools. Under-aged failures were allowed to repeat Primary Six.[63] These vocational schools, offered a two-years course with emphasis on training in practical subjects.[64] While students of Secondary Academic and Technical Schools could qualify for entrance into pre-University classes, the students of the Secondary Vocational Schools could proceed to the Singapore Vocational Institute or the Singapore Polytechnic for craft-training.[65]

The Government upgraded the Balestier Junior Trade School and renamed it the Singapore Vocational Institute in June, 1963. This Institute then took over the craft courses from the Singapore Polytechnic. The Singapore Polytechnic in turn raised its professional courses to degree level and expanded its technician courses.[66]

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[63] Ibid., p.68.

[64] Ibid., p.69.

[65] Ibid., p.64.

[66] Ministry of Education, Annual Report 1965 (Singapore: Government Printing Office, 1965), p.10.

1964, six secondary and technical schools and seven secondary vocational schools began to function. By June 1965, the numbers increased to nine and ten respectively.[67] In June 1968 the Technical Education Department in the Ministry of Education was set up. With the establishment of this Department, the problem of correlating educational programmes with industrial expansion received fresh impetus.[68]

The years from 1959 to 1969 gradually saw the continuous creation of industrial training centres to conduct accelerated training courses to meet the urgent needs of industry, and to supplement the production of skilled manpower by the vocational institutes.[69]

The Revision of 1969

In view of the accelerated industrialization programme in Singapore during the last part of the period under review the educational structure and pattern were revised

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[67] Ibid., pp.6-9.

[68] Technical Education Department, Annual Report 1970 (Singapore: Government Printing Office, 1970), p.1.

[69] Ministry of Education, Report of the Commission of Inquiry into Vocational and Technical Education in Singapore (Singapore: Government Printing Office, 1961), p.41.

in order to conform to the supply and demand pattern generated by the fast-growing and increasing technologically sophisticated industrial sector of the republic's economy.[70] The secondary curriculum underwent a major revision in 1969.

Reforms in curriculum and structure of secondary education to place more emphasis on more sophisticated technical subjects were introduced in 1969, vocational education per se was discarded. The solution to the supply of qualified manpower was the provision of general education with a technical orientation for pupils in Secondary I and II levels of the four language streams.[71] Under the revised curriculum, all boys in secondary I and II classes had to take technical subjects such as technical drawing, metalwork, woodwork and basic electricity, with traditional instruction in languages, literature, mathematics, science, history, geography, physical education, and civics. Girls

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[70] Y. H. Gwee, "Education and the Process of Change." Singapore: Central Library, University of Singapore, 1970. (Mimeographed.)

[71] T. B. Lim, "Let's Train Youths for Industrial needs." Singapore: Central Library, University of Singapore, 1963. (Mimeographed.)

however, had the choice of studying domestic science or taking up those technical subjects.[72]

The direct posting of Secondary I classes to technical school ceased with effect from 1969.

After completion of Secondary II, students would either proceed to Secondary III and IV and then to pre-university classes or branch off to a variety of technical training centres to train as craftsmen and technicians or to vocational institutes.[73]

During this period, three former vocational schools were converted into industrial training centres, while six others were merged with adjacent academic/multi-purpose schools to become bilateral schools, and four new industrial training centres and vocational institutions were established. Furthermore, twenty units of workshop were created to provide practical training for pupils at Secondary I and II levels.[74] Apart from the inclusion of technical subjects, the revised curriculum also provided a wider base for all-round

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[72] Doraisamy, op. cit., p. 128.

[73] Ministry of Education, Annual Report 1967 (Singapore: Government Printing Office, 1967), pp.4-5.

[74] Technical Education Department, Annual Report 1969 (Singapore: Government Printing Office, 1969), p.5.

development of the individual pupil's potentiality.[75] Problems of premature specialization and rigid streaming of pupils into academic and technical categories at an early age could, it was hoped, be surmounted.

Technical subjects at Higher School Certificate level were introduced for the first time in 1969 to provide students with adequate groundwork for Science and Engineering courses at the universities and technical colleges.[76] They also provided technical training which would give partial exemption for students desiring to pursue courses leading to the award of an advanced craft or technical certificate. Three vocational institutes have been functioning since 1968 offering courses in engineering at craft level and in manual and applied arts. At a higher level, the Singapore Technical Institute, commencing training in April 1969, offered craft technician courses to bridge the gap between the craftsmen and the technician.[77]

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[75]K. S. Ong, "Development and Problems of Singapore Secondary Education 1974-1969 " (unpublished thesis, University of Singapore, 1970), pp. 20-29.

[76]Technical Education Department, Annual Report 1969 (Singapore: Government Printing Office, 1969), p.5.

[77]Ibid.

Chapter 4

HIGHER EDUCATION

This chapter presents data on higher education in Singapore. In the first part of the chapter, details are set forth concerning the establishment of the institutions involved, and developments during the period 1959 to 1969. In the second part of the chapter are discussed some of the issues in higher education in Singapore, with implications for the direction of future developments.

I. DEVELOPMENT OF THE INSTITUTIONS

By 1969, there were five institutions of higher learning in Singapore: Nanyang University, the University of Singapore, the Singapore Polytechnic, Ngee Ann College, and the Singapore Technical Institute.[1] The origin of each and its development during the period 1959 to 1969 will now be discussed in detail.

Nanyang University

Nanyang University was planned in 1953 in response to the demand which arose when Singapore's Chinese high

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[1] Sin Chew Jit Poh (Singapore), July 4, 1960, p. 2.

school leavers found it impossible to proceed to China for higher studies.[2] In May 1953 Nanyang University was incorporated as a company. Prominent Chinese businessmen in Singapore and Malaya formed a committee to promote the establishment of a Chinese-medium university and fund-raising campaigns were launched. The Hokkien Huay Kuan, a Chinese clan organization, donated 500 acres of land in Jurong for the site of the new university. Approximately 100 acres had been developed. The new buildings, erected mainly during the mid 1950's are impressive for their grandeur and beauty. The university began functioning in 1956. It broadly follows the Chinese (Taiwan) University system, modified to the American pattern by which students have to secure a requisite number of credits in prescribed courses for graduation. Admission to the university is in most cases based on the advanced level results of the Higher School Certificate Examinations.

Degree courses generally extend over 3 or 4 years. The bachelor's is awarded on the successful completion of these courses. University teaching combines lectures, practical classes and seminars or tutorials.

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[2] H. Hugden, Higher Education and Development in South East Asia (Paris: UNESCO, 1967), p. 444.

HIGHER EDUCATION

With the achievement of full self-government in 1958, government interest in Nanyang University increased. The Nanyang University Ordinance was passed in March 1959, giving statutory basis to the university as an educational institution. The ensuing years saw the working out of the role to be played by the University and the status to be accorded it in an independent Singapore. Chinese education in Singapore has been an especially sensitive political issue and the government has handled the Nanyang University issue with care.

In January 1959, a commission was appointed under the Chairmanship of Sir S.L. Prescott of the University of Western Australia to look into the academic standards and the adequacy of the teaching staff, the facilities and the means adopted by the university for ensuring satisfactory standards of academic work. The report of the commission while admiring the enthusiasm of the students, considered that the university had grown too fast without continuous expert preliminary planning. The organization and administrative system were inappropriate; the standard of the library and the laboratory provision inadequate, the terms of employment discouraging to recruitment and demoralizing to those recruited, and the curriculum overloaded and uncoordinated. It further recommended that an ad hoc committee should be appointed to review

these findings and to determine the extent and sequence of the reorganization deemed necessary.[3]

The report closed with a stimulating paragraph:

> We would like to see the present idea of a separate 'Chinese University' and a separate 'English University' replaced by the idea of two Malayan universities, one teaching principally in English, the other teaching principally in Chinese, sharing the same ideal of building up, through sound scholarship and intellectual solidarity, a harmonious community characterized by mutual understanding and respect. In this way, traces of mutual distrust, bred in long educational isolation, will disappear completely in the new unity which will surely grow under independence and freedom.[4]

The Commission submitted its report in March 1959.

In July 1959, a review committee was set up under the chairmanship of Dr. Gwee Ah Leng, a physician at the General Hospital, and a lecturer at the University of Singapore.[5]

The committee stated that Nanyang should evolve into a university where students from all Malayan secondary schools could obtain an education.[6]

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[3]Nanyang University Commission, Report of the Nanyang University Commission 1959 (Singapore: Government Printing Office, 1959), p. 8.

[4]Ibid., p. 30.

[5]Sin Chew Jit Poh (Singapore), March 29, 1959), p. 2.

[6]Sin Chew Jit Poh (Singapore), September 16, 1965, p. 2.

Other recommendations included government aid by deficit financing of student bursaries and matching grants for donated capital funds; a board of selection for the expert recruitment of staff and assessment of staff standards; better terms of service for the staff; and reforms of both curricula and the examination system. The order of reorganization was drawn up with the following program: (a) the appointment of an acting vice-chancellor; (b) the establishment of a provisional council and senate to be followed in due course by permanent bodies; (c) the establishment of a council and a guild of graduates; (d) the setting-up of a joint working party of representatives of Nanyang and the University of Malaya and the Government of Singapore and the Federation of Malaya, to plan the future relations of the two universities; (e) the revision of the curriculum; and (f) the establishment of a pre-university course for students whose only weakness was in English.[7]

The Committee's recommendations were adopted in principle by the Government which stated that it was prepared to grant Nanyang University parity of treatment with the University of Malaya provided that the reorganisation of the

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[7]Nanyang University Review Committee, Report of the Nanyang University Review Committee Singapore, 1960 (Singapore: Government Printing Office, 1960), pp, 20-29.

university was carried out as recommended. It was not until June 1964 that agreement was reached between the government and university representatives on the question of re-organisation of the university. In 1964, the university was admitted to full membership in the International Association of Universities. In 1965, a curriculum review committee, under Professor Wang Gungwu was set up to review and make suggestions concerning the organisation and content of study at the university.[8] The Committee was of the view that the University should open its doors to students from all streams of education, and the nature of the society must be reflected in any institution of higher learning which purported to serve that society. In order to achieve this, the courses of study in the university must be adapted to ensure that students from all streams of education in the country might benefit from the university's existence.[9]

The committee strongly felt that Singaporean society was greatly concerned with the prosperity and peaceful development of the new nation of Malaysia. In this context,

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[8]Ministry of Education, Annual Report 1966 (Singapore: Government Printing Office, 1966), pp. 17-18.

[9]Utusan Malayu (Singapore), December 11, 1960, p. 6.

there was an urgent need for people with a deep rational and sympathetic understanding of the multi-racial basis of the country. The university should produce graduates able to guide the course of the country's development, and trained to administer the public services, manage the growth of commerce and industry, and specially equipped to meet the nation's need for rapid modernization.[10]

The Committee recommended that the university turned out graduates who were at least bi-lingual and recommended the establishment of a language centre for this purpose. The abolition and re-orientation of certain existing departments and the creation of a department of Malay studies and the recruitment of staff of high calibre at salaries comparable to those of other local universities were also suggested. Full recognition of the University's degrees has already been announced.

By 1969, as shown in Table 2 1, the University had a language centre. It was equipped with an eight-channel and seventy-eight-booth laboratory. Chinese, English, Malay, Japanese, French and German were the languages taught at the centre.

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[10] Sin Chew Jit Poh (Singapore), September 14, 1965, p. 2.

Table 21

Annual Student Enrolment by Course at Nanyang University, 1959-1969.

Year	1959		1960		1961		1962		1963		1964		1965		1966		1967		1968		1969	
Course	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F
Arts	310	217	502	225	964	261	988	24[illegible]	761	244	702	22[illegible]	551	176	476	164	507	185	649	274	694	301
Science	629	101	694	114	690	119	747	141	840	173	660	207	885	220	794	193	729	197	774	204	723	191
Commerce	287	33	265	39	306	55	375	61	723	142	711	167	690	171	581	169	514	156	568	168	607	181
Language Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	5
Total	1726	351	1861	378	1960	435	2110	45[illegible]	2324	564	2273	597	2126	567	1851	52[illegible]	1750	53[illegible]	1991	646	2040	678

Source: Nanyang University, Annual Reports, 1959-1969 (Singapore: Nanyang University Press, 1959-1969).

T - Total

F - Female

HIGHER EDUCATION

Nanyang University had 1,726 students in 1959 and in 1969 it had 2,040. (See Tables 21 and 22.)

The University had colleges of arts, science and commerce. The college of arts comprised the departments of Chinese language and literature, Malay studies, history, geography and government and public administration, while the college of commerce had departments of industrial and business administration, accountancy and economics. Departments in the college of science were mathematics, physics, chemistry and biology.

In the ten years since its establishment the University produced more than 2,000 graduates of whom some 150 read for higher degrees in universities overseas.

Some of the graduates failed to obtain a satisfactory position at home and sought higher education abroad. This was a great blessing in disguise, since many of those who hold Ph.D. degrees in Singapore today, were former graduates of Nanyang university.[11] It is reasonable to predict that Nanyang will play an increasingly significant role in the future of Singapore.[12]

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[11] Sin Chew Jit Poh (Singapore), August 14, 1961, p. 2.

[12] Ministry of Foreign Affairs, Member States Progress Reports: Singapore (Bangkok: Government Printing Office, 1965), pp. 5-9.

Table 22

A Comparison of Part-Time and Full-Time Teaching Staff and Student Enrolment, at Nanyang University, 1969-1970 Session

College	Staff		Students	
	Full-time	Part-time	Full-time	Part-time
Arts	42	2	694	-
Commerce	20	5	607	-
Science	42	1	723	-
Language Centre	16	7	16	-
Total:	120	15	2,040	-

Source: Nanyang University, Annual Reports, 1969-1970 (Singapore: Nanyang University Press, 1969-1970).

HIGHER EDUCATION

The University of Singapore

The University of Singapore came into existence on January 1, 1962.[13] Its origin dated as far back as 1905 when the Straits Settlements and the Federated Malay States Government Medical School was founded. In 1959, the University was reorganised into two largely autonomous divisions of equal status: one in Singapore and the other in Kuala Lumpur.[14] Three years later these two divisions became the University of Singapore and the University of Malaya respectively.

The University has faculties of arts and social science, law, science, medicine, dentistry, engineering, and architecture, the school of education, accountancy and business administration, pharmacy and post-graduate medical studies as well as a department of extra-mural studies. The faculties of architecture and engineering were established in 1969 when degree courses of the polytechnic's schools of engineering and architecture and building were transferred to the University. The faculties of arts and social sciences have departments of Chinese studies, Malay studies, English,

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[13] Hugden, op. cit., p. 433.

[14] Sin Chew Jit Poh (Singapore), December 31, 1961, p. 2.

geography, history, economics, philosophy, political science, mathematics, social work and social administration and sociology. Departments in the faculty of science are those of botany, chemistry, zoology, mathematics, physics, anatomy, bio-chemistry, philosophy and physiology. In 1959 the University had a student population of 1,600. It rose to 4,599 in 1969. (See Tables 23, 24 and 25.)

In the University of Singapore the wastage from drop-out was slight, both in the first and in the final year. For example in 1961-62, there were only three dropouts from 114 in the first year in Arts, 6 from 71 in science and 1 from 80 in medicine. Examination failures in the first and final years were also very low, although a system of referral offered a second examination at the end of the long vacation. The figures in medicine were certainly impressive and possibly surprising, for in the academic year 1963-64 in a series of fifteen examinations, nine final and six supplementary, of 718 examinees there were 663 passes and 55 failures. It was assumed that 164 referred candidates were absorbed in the final count.

Since 1965, the development of the university was momentous. There was steady growth in every field, except that of applied science. This trend of development of higher education in the peninsula is very encouraging.

Table 23

Annual Student Enrolment by Courses at the University of Singapore, 1959 to 1969.

Year / Course	1959		1960		1961		1962		1963		1964		1965		1966		1967		1968		1969	
	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F
Arts/Social Sciences	592	202	402	153	359	151	423	200	492	212	599	253	714	313	843	378	1039	449	1242	531	1169	528
Dentistry	59	17	111	27	103	23	136	26	167	31	182	37	183	45	197	54	193	48	189	47	175	45
Education	87	47	77	49	63	33	104	77	159	74	28	20	41	31	35	25	53	34	79	48	10*	1*
Law	147	25	227	42	295	52	359	66	426	90	367	68	402	69	314	53	310	54	353	74	368	98
Medicine	470	76	530	74	561	84	582	99	595	99	644	118	659	127	682	147	664	153	674	170	640	155
Pharmacy	27	10	52	23	82	32	102	36	101	35	120	51	142	66	134	58	118	47	110	35	85	28
Science	218	48	242	53	275	54	385	75	502	101	632	140	724	184	807	234	936	271	1067	311	1046	344
Business Administration	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	203	32
Accountancy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	401	114
Architecture	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94	14
Building/Estate Management	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35	2
Engineering	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	460	6
Total	1600	425	1641	426	1763	435	2149	579	2433	643	2572	687	2870	835	3012	949	3253	1056	3714	1209	4559	1367

T = Total

F = Female

* These are post-graduate students reading for higher degrees. Students in the diploma in education course are included in the student enrolment figure for Teachers' Training College.

Source: University of Singapore, Annual Reports 1959-1969 (Singapore: University of Singapore Press, 1959-1969).

Table 24

Graduands by Level of Qualifications, at the University of Singapore, 1969

Level	Award		No. of graduands
First degree	Arts/Social Sciences	- B.A. (Pass)/B. Soc.Sc.(Pass)	75
		- B.A.(Hons)/B.Soc.Sc.(Hons)	163
		- B.Business Admin. (Pass)	6
		- B.Business Admin. (Hons)	26
	Law	- LL.B.	45
	Science	- B. Sc.(Pass)	214
		- B. Sc.(Hons)	98
	Medicine	- M.B.B.A.	120
	Dentistry	- B.D.S.	35
	Pharmacy	- B. Pharmacy (Pass)	24
		- B. Pharmacy (Hons)	2
	Engineering	- B. Engineering	68
	Accountancy	- B. Accountancy	79
Higher degree		M.D.	2
		D.Sc.	1
		Ph.D.	6
		M.A.	6
		LL. M.	2
		M. Sc.	8
		M.Pharm.	1
		M. Ed.	2
Diploma		Education	58
		Social Studies	19
		Public Health	10
		Fisheries	6

Source: University of Singapore, Annual Reports 1968-1969 (Singapore: University of Singapore Press, 1968-1969).

Table 25

A Comparison of Part-Time and Full-Time Teaching Staff and Student Enrolment at the University of Singapore, 1969.

Faculty/School	Staff		Students	
	Full-time	Part-time	1st year	Others **
1. Arts and social science	71	26	295	814
2. Law	17	19	104	264
3. Education	4	7	-	10
4. Accountancy and business administration	11	8	127	274
5.	11	8	108	95
5. Science	61	29	233	813
6. Medicine	95	56	102***	530
7. Dentistry	15	5	33***	135
8. Pharmacy	8	3	26***	54
9. Post-graduate medical studies	-	-	-	8+
10. Engineering and	14	24	145	255
architecture/building	12	16	51	78
Total:	308	193	1,229	3,330

* 1st September, 1969.

** Includes non-graduating and post-graduate students.

*** Year II students (No year I admission).

\+ Diploma in public health students only. Other post-graduate students will be admitted in the course of the 1969/70 session.

Source: University of Singapore, Annual Report, 1969, (Singapore: University of Singapore Press, 1969).

HIGHER EDUCATION

This period witnessed the establishment of the School of Education, the Department of Extra-Mural Studies, the Department of Law, a degree course in pharmacy, and a Department of Social Science.

In 1960, the university introduced pre-university classes in all faculties for students from non-English schools. Seventy-two were admitted to the first year . Consideration was given to the establishment of a Department of Music.

Entrance requirements for the first degree is based upon the Cambridge Higher School Certificate or its equivalent, i.e. upon a six-year secondary school course, the last two years of which form a post secondary school certificate course.

Arts degrees require a three-year course for first class honours, upper and lower division second-class honours, or a pass degree: three subjects have to be offered in the first year, and one or two in the last two years. Law requires four years for full-time students, six for part-time students. In science a three year course leads to a pass degree, and an additional year's specialisation in one field leads to an honours degree in three classes. Medicine and surgery require about six years of study, dental surgery about five years, and pharmacy three years. Diploma courses

are offered in social science, public health, and education, all post-graduate courses of one year's duration.

Master's degrees require at least one year's residence and the submission of a thesis, and a Ph.D. requires two years residence and a thesis. Other doctorate degrees depend upon the quality of published work which makes an independent and valuable contribution to a special field.[15]

The Singapore Polytechnic

The Polytechnic was established in October 1954 when the Singapore Polytechnic Ordinance was passed by the Legislative Council.[16] The idea of a polytechnic took shape in August 1951, when an ad hoc committee of the Malayan Society of Engineers formed to investigate the shortage of draughtsmen and technicians in the engineering industry led to the suggestion of training in other areas such as seamanship, architecture and accountancy. In September, 1953, the committee headed by Professor E.H.G. Dobby recommended the setting up of a polytechnic:

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[15] Ibid., p. 444.

[16] Nanyang Siang Pau (Singapore), February 26, 1960, pp. 8-9.

HIGHER EDUCATION

> An institute teaching many branches of technical and professional knowledge and primarily intended to provide part-time instruction for employed people who seek additional skills and more advanced knowledge of their occupation, and certification of their standards and attainments.[17]

After considerable building activity and staff recruitment the Polytechnic began its first academic term in November 1958. The first year was to a certain extent an exploratory period. However, during the first week, 2,700 students had been enrolled; over 400 were full-time students, 500 were part-time, and the remainder attended evening classes. Forty full-time lecturers and over 100 visiting staff went into action.

With the achievement of internal self-government in 1959, major changes were made in the Polytechnic so as to relate it more closely to the manpower needs implied by the government's policy of industrialisation. The general education and office arts courses were discontinued. The remaining departments of engineering, architecture and building, accountancy and nautical studies were fully developed. A local examination system with external and internal examiners replaced the previous system of overseas

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[17] Ministry of Education, Report of the Committee on a Polytechnic Institute for Singapore (Singapore: Government Printing Office, 1953), pp. 28-36.

examinations. Diplomas in craft, technician and professional levels have been awarded ever since. The minimum entrance qualification for the two upper levels was a Cambridge School Certification or its equivalent. (See Table 26.)

The courses available at the Polytechnic during the 1965/66 session were mainly in the Departments of Engineering, Building and Architecture and Accountancy.

A liberal studies section, attached for administrative convenience to the Department of Accountancy, provides obligatory courses at the appropriate level in the fundamentals of language, and social economy to support the courses in engineering, architecture and accountancy at both professional and technical levels. Special classes are also held in the English language, economic history, geography, both physical and economic, and other subjects of the humanities.

A study of wastage in the largest department was made for the Commission of Inquiry into vocational and technical education. The report pointed out that only 20.9 per cent of the 780 in the total enrolment of the Polytechnic for 1960 were full-time students. It comments:

> The unduly high figures registered for technician part-time students bear looking into. There is a greater failure rate for part-time students as compared with full-time students, as well as a greater tendency to leave during the session ...

Table 26

Annual Student Enrolment by Courses at the Singapore Polytechnic, 1959 to 1969.

Year / Course	1959 T	1959 F	1960 T	1960 F	1961 T	1961 F	1962 T	1962 F	1963 T	1963 F	1964 T	1964 F	1965 T	1965 F	1966 T	1966 F	1967 T	1967 F	1968 T	1968 F	1969 T	1969 F
Engineering (Degree)	927	2	1487	5	1658	4	1705	1	1215	2	1273	2	-	-	157	1	312	2	342	3	-	-
(Professional)													171	1	56	-	16	-	1	-	-	-
(Technician)													1207	1	1283	6	1448	11	1723	31	1760	47
Building & Architecture (Degree)	517	5	503	19	647	17	612	32	511	27	604	29	-	-	43	10	57	18	61	8	-	-
(Professional)													137	18	117	8	107	4	107	2	-	-
(Technician)													485	4	541	8	533	8	564	13	-	-
Building Technician	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	373	8
Building (Quantity Surveying) (Professional)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	-
Architecture (Professional)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	3
(Technician)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	134	22
Accountancy (Degree/Prof.)	114	9	237	31	314	46	360	35	486	76	383	69	282	56	265	46	377	88	429	101	-	-
(Diploma)													-	-	125	30	47	18	11	3	-	-
National Studies	97	-	115	-	125	-	38	-	47	-	39	-	53	-	55	-	66	-	105	-	164	-
Industrial Technology (Tech.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	573	29
Land Surveying (Tech.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	-
Rubber & Plastics (Tech.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	111	21
Ship Construction (Tech.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	-
Valuation Surveying (Prof.)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	-
TOTAL:	1655	16	2342	55	2744	67	2735	68	2259	105	2299	100	2335	80	2642	109	2963	149	3343	161	3310	150

T = Total

Source: Singapore Polytechnic, Annual Reports, 1959-1969 (Singapore: Singapore Polytechnic Press, 1959-1969).

> the expensive facilities available could have been better utilized towards training more full-time students.[16]

However, in 1963 the over-all proportion of full-time students to part-timers was 42 to 58 per cent (940 to 1289) and future plans envisaged an enrolment of 4,000 of whom 50 per cent should be full-time.

During the 1963 - 1964 academic year, negotiations were initiated with the University of Singapore to work out an arrangement under which the Polytechnic's engineering, architecture and accountancy students would be awarded degrees by the University. Degree courses in these subjects began with the 1964-65 session. Further reorganisation was undertaken in May, 1969. The School of Accountancy and the degree courses of the schools of engineering and architecture and building were transferred to the University of Singapore. Henceforth the Polytechnic would conduct only technical courses.[17] (See Table 27.)

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[16] Ministry of Education, Report of the Commission of Inquiry into Vocational and Technical Education (Singapore: Government Printing Office, 1961), p. 30.

[17] Sin Chew Jit Poh (Singapore), April 11, 1968, p. 2.

Table 27

Distribution of Students by Courses, at the Singapore Polytechnic, 1969.

Level	Course	No. of students			
		Full-time	Day-release	Evening	Total
Certificate	Pre-sea training	61	-	-	61
	Marine radio officers	49	-	-	49
	Master/1st mate/2nd mate (foreign-going)	-	18	-	18
	Master/mate (home trade)	-	16	-	16
	Radio telephony	-	-	-	-
	Master/mate/helmsman (local trade)	-	-	16	16
	Marine engineering (special)	4	-	-	4
	Industrial technology	307	-	266	573
	Total	421	34	282	737
Technician	Engineering (combined)	245	161	34	440
	Civil engineering	18	4	73	95
	Electrical engineering	67	50	111	228
	Electronics engineering	69	-	-	69
	Mechanical engineering	153	97	217	467
	Telecoms; engineering	42	34	111	187
	Production engineering	53	-	-	53
	Marine engineering	82	22	-	104
	Ship construction	-	75	-	75
	Structural engineering	-	-	117	117
	Rubber and/or plastics	111	-	-	111
	Building	82	-	291	373
	Land surveying	-	-	62	62
	Architectural draughtsmanship	-	-	134	134
	Total	922	443	1,150	2,515
Professional	Building/quantity/surveying	28	-	-	28
	Architecture	7	1	-	8
	Valuation surveying	-	-	22	22
	Total:	35	1	22	58
	Grand total	1,378	478	1,454	3,310

* 20th June, 1969.

Source: Singapore Polytechnic, Annual Report 1969 (Singapore: Singapore Polytechnic Press, 1969).

HIGHER EDUCATION

The Polytechnic has the School of Industrial Technology and the School of Nautical Studies.[18] The former aims to provide trained technical personnel to meet the needs of industry, statutory bodies and the civil service. The latter seeks to train deck officers and radio officers on board merchant ships. With these facilities, it is hoped that Singapore will become a centre for technical and technological education in South-East Asia.[19] (See Table 28.)

Ngee Ann Technical College

Ngee Ann College which was established on the British model was founded in May 1963 as a private institution by the Ngee Ann Kongsi, a Teochew clan association, to provide technical, domestic science and language instruction at the post-secondary level to Chinese-medium secondary school-leavers.[20] As shown in Tables 29 and 30, the College in 1969 had a total enrolment of 586 students, 8 part-time and 26 full-time teaching staff. The courses were of four years' duration, or six years for evening-class students. Courses were organized on the

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[18] Ibid.

[19] Ibid.

[20] Ministry of Education, Annual Report 1963, (Singapore: Government Printing Office, 1963), p. 17.

Table 28

Number of Graduands of the Singapore Polytechnic, 1968-1969 Session

Level	Course	No. of graduands
Technician	Civil Engineering	25
	Electrical engineering	42
	Mechanical engineering	61
	Production engineering	15
	Structural engineering	11
	Marine engineering	13
	Telecoms engineering	26
	Rubber and plastics	18
	Land surveying	8
	Building	45
	Architectural draughtsmanship	11
	Total	276
Professional	Mechanical engineering	1
	Architecture	9
	Building	14
	Valuation	2
	Accountancy	11
	Total	37

Source: Singapore Polytechnic, Annual Reports 1968-1969, (Singapore: Singapore Polytechnic Press).

Table 29

Annual Student Enrolment by Course at Ngee Ann Technical College, 1963 to 1969

Course \ Year	1963		1964		1965		1966		1967		1968		1969	
	T	F	T	F	T	F	T	F	T	F	T	F	T	F
1. Chinese Literature	71	22	137	46	187	51	181	53	101	24	66	12	24	4
2. Malay Studies	54	7	100	13	125	20	129	23	59	7	34	3	17	1
3. Business Administration	41	7	78	11	90	17	97	17	49	9	31	5	21	5
4. Accountancy	109	27	196	44	238	58	217	63	110	32	67	21	26	10
5. Applied Chemistry	32	7	57	11	80	20	72	21	31	6	13	4	7	3
6. Telecommunications Engineering	42	2	67	2	82	2	85	2	26	-	14	-	4	-
7. Home Economics	37	37	53	53	71	71	71	71	26	26	15	15	7	7
8. Mechanical Engineering	-	-	-	-	-	-	-	-	-	-	116	6	211	6
9. Industrial Electronics	-	-	-	-	-	-	-	-	-	-	-	-	83	18
10. Business Studies	-	-	-	-	-	-	-	-	-	-	-	-	184	114
Total:	386	109	688	180	873	239	852	250	400	104	356	66	586	168

T = Total

F = Female

Source: Ngee Ann College, Annual Reports, 1963-1969 (Singapore: Ngnee Ann College Press, 1963-1969).

Table 30

A Comparison of Part-Time and Full-Time Teaching Staff and Student Enrolment, at Ngee Ann Technical College, 1969

Course	Staff			Students		
	Part-time	Full-time	Total	New	Existing	Total
(a) Old						
Chinese literature	-	3	3	-	24	24
Malay studies	2	1	3	-	17	17
Business administration	**	**	-	-	21	21
Accountancy	1	1	2	-	28	28
Applied chemistry	-	1	1	-	7	7
Telecommunications engineering	1	1	2	-	4	4
Home economics	1	1	2	-	7	7
Total:	5	8	13	-	108	108
(b) New						
Mechanical engineering	-	9	9	118	93	211
Industrial electronics	-	3	3	83	-	83
Business studies	3**	6**	9	184	-	184
Total:	3	18	21	385	93	478
Grand total	8	26	34	385	201	586

* 1st July, 1969.

** Same staff for these courses.

Source: Ngee Ann Technical College, Annual Report, 1969 (Singapore: Ngee Ann College Press, 1969).

American credit system, and there were three faculties. The faculty of arts had departments of Chinese and Malay languages. The faculty of commerce had departments of business administration and accountancy, and the faculty of technology had departments of applied chemistry, mechanical engineering, industrial electronics and domestic science.

Most of the departments attempted to match the output of the college with the industrial and commercial needs of Singapore. Therefore, applied chemistry was designed to teach the special problems of analysis and manufacture in local chemical industries, and there were courses on the fiber industry and fertilizer chemistry. Industrial electronics deals with the engineering skills required by the modern electronics industry.

In 1965, Professor Lucien W. Pye and Professor Arthur L. Singer Jr. were appointed by the Kongsi to make recommendations on the future development of the College. They suggested that the College should develop into a post-secondary institution along the lines of a community college in the American educational system. A committee, appointed in February, 1966, under the chairmanship of Professor Thong Saw Pak, recommended that the College

should continue to serve mainly students from the Chinese language stream. It suggested that the College be reorganized as a community college providing diploma courses, with the long-term objective of developing into an institution of university-status.[21] These and other recommendations were accepted by the Kongsi. The Ngee Ann College Act was passed by Parliament in September 1967. The College changed its name to that of Ngee Ann Technical College in August, 1968.

It is obvious that the successful development of a multipurpose post-secondary training institution would be of great value in producing some of the personnel required to support the professional cadres.[22] The need for such institutions throughout the region is evident.[23] However, these modest targets of such an institution may not satisfy the promoters or the students of the college. Yet another Review Committee had been appointed to advise upon the future of the college in December, 1968.

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[21] Ministry of Education, Report of the Committee of Review on the Future Development of Ngee Ann College (Singapore: Government Printing Office, 1966), pp. 2-10.

[22] Sin Chew Jit Poh (Singapore), August 13, 1962, p. 2.

[23] Nanyang Siang Pau (Singapore), May 8, 1969, p. 2.

HIGHER EDUCATION

Singapore Technical Institute

The Singapore Technical Institute was established in April, 1969 as an institution intermediate between the vocational institutes and the Singapore Polytechnic. The Institute trains students to advanced craft level.

Courses in mechanical engineering practice, ship-building and radio and television servicing were begun for the 1969-1970 session.

II. ISSUES AND FUTURE DIRECTIONS

No discussion of higher education would be complete without identifying some of the issues current in 1969. Hopefully, this will help clarify the direction of future development.

Education at Home and Abroad and the Problem of Highly Qualified Manpower

Students of the University of Singapore, Nanyang University, Singapore Polytechnic, Ngee Ann Technical College and Singapore Technical Institute and students from Singapore studying overseas provided the main sources of recruitment for high-level manpower such as doctors, technologists, senior administrators and the higher echelons of business executives.

HIGHER EDUCATION

Thus, the universities have had an important role to play in the economic system. Despite its importance however, university education in Singapore was in an anomalous situation. In 1959 there were only a total of 5,367 students in the above institutions whereas a 1960 UNESCO study showed that there were 1,300 students from Singapore in Australia, 5,000 in the United Kingdom, 1,800 in New Zealand, over 5,000 in the United States and considerable numbers in India and Taiwan. Furthermore, a large number of students at both universities were not Singapore residents. Of 306 graduates from the University of Singapore in 1963 only 175 were domiciled in Singapore; similar figures for Nanyang were 405 and 146. The total output of graduates domiciled in Singapore in 1967 was only 375.[24]

As might be expected therefore, Singapore is dependent upon returning overseas students to meet its manpower needs. Because of its inability to meet its own demands for highly qualified manpower, Singapore had to rapidly expand its Universities during the period under review. Although it did do this, as evidenced by the enrolment figures in Tables 21, 23, 27, and 29, by the end of

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[24] Hugden, op. cit., p. 458.

the period a severe gap still remained.

The output of the two universities, the Polytechnic and Ngee Ann College were projected until 1970 by the Commission of Inquiry into Education in Singapore on the basis of low and high future enrolments. It gave a range of total number of graduates between 1,130 and 1,205. In contrast, Guy Hunter calculated that an output of 1,770 would be needed by 1970.[25] On this assessment a deficiency of over 30 per cent of the total requirement would have to be drawn from returning graduates from overseas.

Although the chronic shortage of Singapore educated manpower was still in existence at the end of 1969, according to Hugden's UNESCO Report, with the expansion then contemplated at the University of Singapore and Nanyang University, and with the development of Ngee Ann College, the supply of high-level manpower should not be a major concern.[26] However, the assessment of industrial needs showed that unless the faculty of technology of the University of Singapore was rapidly and successfully established, the Polytechnic, even in its emergence as a

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[25] Ibid.

[26] Ibid.

technological university, would not be able to meet the demand of the industrial development.[27]

A Government Manpower Committee was established in 1967 to keep the situation under review. This was a difficult task because many of the small industrial undertakings were organized on a family basis. The Committee found that there was a great need to produce well trained but non-graduate teachers, technicians of all types, fully trained nurses, senior clerks and managerial staff for smaller concerns. To solve this problem, the Committee recommended training should begin at the first four years of secondary education and also in the industrial and post-secondary vocational school. Applied training was strongly recommended not only in the Polytechnic's technician courses, but also in the variety of industrial training schemes developed and encouraged by the Economic Development Board. With the increasing automation of light and medium industries, it was also necessary to pay special attention to producing more foremen, supervisors and clerical staff.

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[27] Ibid.

HIGHER EDUCATION

Besides the lack of educational resources, the lack of research on the relationship between education and employment was also evident. No detailed investigation into the employment structure of public and private undertakings seemed to have been done. Such research probably would have facilitated the establishment of educational policy and enhanced economic development.[28]

Women Students

A feature common to all the institutes of higher learning was that the number of women students was extremely small compared with the number of men students in the academic and social life of the campus (see Tables 21, 23, 26, 29).

Table 21 shows that in 1969, Nanyang University had an enrolment of 2,040 students and 678 or 33 per cent were women. Ten years ago, the percentage of women was only 20 per cent. There was considerable progress at Nanyang University.

At the University of Singapore, in 1969, as indicated in Table 23, of a total student body of 4,559,

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[28] Sin Chew Jit Poh (Singapore), December 7, 1971, p. 5.

only 1,367 or barely 30 per cent were women. In 1959, of 1,600 students there were 425 women, or 27 per cent. The situation at the University of Singapore had not improved.

As for the Singapore Polytechnic, in 1969, 5 per cent of the total student population were women. In 1959, there was only 1 per cent women enrolling in the College. (See Table 26.) No great change recorded for Ngee Ann Technical College regarding the female student enrolment. In 1969, 29 per cent of the total enrolment were women and in 1960, 28 per cent were women. (See Table 29.)

Industry and commerce have attracted female workers from families of modest means, away from domestic work and into the offices and shops. New opportunities in professional careers for girls also emerged although only to a limited extent during the 1958-1969 period.

Student Aid

If students had to pay high tuition fees, the purposes of higher learning would have been defeated.[29] In Singapore, it was the national policy that no able student be deprived from admission to a university, merely because of lack of money. Although a step in the right direction,

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[29] Toronto Star (Canada), June 29, 1972, p. 7.

loans, scholarships, and bursaries were not necessarily sufficient to cover the whole expense of the courses including travel allowances and living expenses; access for poorer students was limited.[30]

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[30] Straits Times (Singapore), April 28, 1972, p. 13.

Chapter 5

TEACHER TRAINING

This chapter discusses developments in teacher training in Singapore from 1959 to 1969. It describes teacher training in 1959, and then discusses in turn the changes that occurred in the eleven year period. Special attention is paid to developments related to the dominant policies underlying education in Singapore in the decade -- the principle of parity education, for national unity, and education for industrial growth.

I. TEACHER TRAINING IN 1959

Minimum Qualifications to Teach

In 1959, it required a Senior Cambridge Certificate or Middle III Certificate as the minimum qualification to teach in primary schools and Higher School Certificate to teach in secondary schools. Teacher training was not required before 1959 to teach at the primary school level but those with primary school teacher training did get higher salaries.

Teachers' Training College

The Teachers' Training College was established in

the 1950's.[1] Since then, the main burden of teacher training, fell on the College. The College, which was governed by the Ministry of Education, offered programmes for primary school teacher-training only. These full-time programmes were given in English and Chinese, hence, most of the teachers in training were from the Chinese and English streams.

In 1958, a special Malay Normal Training Course, a two-year part-time course leading to the Normal Certificate was introduced in order to substantially increase the members of Malay teachers. From 1957 to 1959, there was only one training class for Tamil teachers with a total enrolment of 24.[2] This was a three-year part-time course offering a limited range of subjects.

The secondary school teacher-training was available in Singapore in 1959.

Role of the Universities

University graduates from Nanyang University and the University of Singapore could get into the teaching

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[1] Sin Chew Jit Poh (Singapore), February 2, 1960, p. 2.

[2] Doraisamy (ed.), op. cit., p. 122.

profession directly. Thus, these universities played an important role in supplying graduates from different faculties of the universities to teach various subjects in the schools, mostly at the secondary schools. Because most teachers at the secondary level did not have university degree, therefore, the universities did help the Teachers' Training College to solve the problem of providing school teacher stortage indirectly.

II. DEVELOPMENTS 1959-1969

Minimum Qualifications to Teach

By 1969, new minimum qualifications had been established by the Ministry of Education. All new primary school teachers had to have the Normal Certificate and all new secondary school teachers had to have a Diploma in Education (from University of Singapore) or a Certificate in Education (from the Teachers' Training College). Hence there were two main routes into the teaching profession: the first through the Teachers' Training College, the second through the universities. The training of teachers for teaching at primary and secondary levels in the four official language streams of education was centralised at the Teachers' Training

College. The College conducts jointly with the School of Education of the University of Singapore a diploma in education course for university graduates in both English and Chinese media.

One result of the upgraded minimum requirement was that some of the courses offered by the College were in-service; teachers-in-training taught in the morning, and then went to the College to attend lectures in the afternoon or vice-versa. This new single system of in-service training was introduced in 1960.[3] In 1966 an up-grading one-year in-service course was organised for 54 qualified teachers in woodwork and metal work. To further improve the quality of education, various in-service courses and seminars were organized for teachers and overseas training was extended through scholarship awards.[4]

In addition to the professional courses there were advanced professional courses for qualified teachers in school subjects in order to increase specialised teaching skills and techniques.

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[3]Ministry of Education, Annual Report 1960 (Singapore: Government Printing Office, 1961), p. 9.

[4]Ministry of Education, Annual Report 1964 (Singapore: Government Printing Office, 1965), p. 16.

TEACHER TRAINING

Expanded Enrolments

The very rapid expansion in teacher-training ever since the present government came into office was indicative of the overall expansion of education in Singapore.

The Teachers' Training College had a student population of 2,537 in 1959. Ten years later, it had more than doubled that number to 6,041 (including 3,700 teachers attending in-service courses).

Table 31 indicates that the peak occurred in 1965. The total was 5,603 and 3,248 or more than 50 per cent were female teachers. There were both trained and untrained teachers teaching in primary and secondary schools. (See Table 32 .)

Because of the teacher shortage of the early 1960's, it was necessary to recruit a large number of teachers-in-training to assume teaching responsibility in school.

To meet the demand for qualified teachers for the lower secondary school classes, there were courses for students with Higher School Certificate qualifications. University graduates with degrees from the Universities of Singapore, Malaya, Nanyang and Commonwealth Universities were being trained at the College in increasing numbers.

TEACHER TRAINING

Table 31

Teacher Enrolment in Teachers' Training College, 1959 to 1969.

Year	Number of Teachers		
	Male	Female	Total
1959	1212	1325	2537
1960	1125	1202	2327
1961	1346	1153	2499
1962	2738	1381	3119
1963	2096	2351	4447
1964	2197	2664	4861
1965	2355	3248	5603
1966	2002	2825	4827
1967	1846	2763	4609
1968	1163	1852	3015
1969	900	1441	2341

Source: Ministry of Education, Annual Reports 1959-1969, (Singapore: Government Printing Office, 1959-1969).

TEACHER TRAINING

Table 32

Number of Teachers by Type of Qualification 1939-1969

Year	Total						Grand Total
	Trained	Trainee	Untrained	Trained	Trainee	Untrained	
1959	4,305	-	4,437	1,105	-	692	10,599
1960	3,601	-	5,330	1,390	-	734	11,055
1961	3,952	2,267	3,456	1,529	196	593	12,123
1962	4,446	2,796	3,110	1,858	226	592	13,028
1963	4,924	3,913	2,563	2,055	409	574	14,438
1964	5,182	4,178	2,244	2,554	688	600	15,446
1965	5,852	4,553	1,907	3,118	937	569	16,926
1966	7,048	3,641	1,804	3,673	1,470	551	18,247
1967	7,570	3,379	1,691	4,146	1,730	510	19,016
1968	8,856	1,931	1,848	5,013	1,029	594	19,271
1969	9,287	1,162	1,502	5,467	776	364	18,558

Trained -- Teachers who had completed their training in the Teachers' Training College in Singapore or abroad.

Trainee - Teachers who were undertaking training course in Teachers' Training College.

Untrained - Teachers who did not enrol in the Teachers' Training College.

Source: Ministry of Education, Annual Reports 1959-1969, (Singapore: Government Printing Office, 1959-1969).

TEACHER TRAINING

Due to the rapid expansion of courses and student enrolment, accommodation at the college became a major problem. That situation was eased by the $2.8 million college extension programme, started in 1964 and completed in March 1967.. The new building project provided a hall, a gymnasium, a library and two lecture blocks with laboratories and a workshop.[5]

In 1962, there were 109 lecturers, but in 1967 there were 203 lecturers. Within this short period of five years the number of lecturers increased almost one hundred per cent.[6]

The capacity of the Teachers' Training College was expanded during the period under review rapidly enough to handle the increased enrolment in the school system.

Training Teachers for Language Parity

In order to achieve uniformity in training programmes and in the professional examinations for the four language streams, syllabuses were revised and common question papers were set.

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[5]Ministry of Education, Annual Report 1967 (Singapore: The Government Printing Office, 1967), p. 12.

[6]Ibid., p. 11.

TEACHER TRAINING

In 1965, the Certificate-in-Education course for primary and secondary school teachers was conducted for the first time in all the four official languages. A new 2-year full-time Certificate-in-Education course was started in May, 1966. That marked the beginning of the reversion from part-time to full-time training.[7]

Although teachers from all four language streams were able to take the certification course in their own language, those teachers who would have been expected to be teaching to students from other language streams were given no special training. For example, someone who normally taught physics in English to the English stream might have to teach physics in English to a Chinese stream class, but he would have received no training in the problem of second language learning. Therefore, while enhancing language parity in one way, the segregated teaching-training streams reduced to some extent the viability of employing second language use as a medium of instruction in the school system itself.

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[7]Ministry of Education, Annual Report 1965 (Singapore: Government Printing Office, 1966), p. 16.

TEACHER TRAINING

Enough teachers could not always be produced to meet the demand. Because the English stream was expanding due to industrialization policy, a shortage in the supply of candidates for teacher-training for primary schools in the English stream for subjects like science and technical education occurred in early 1969.[8]

There was also a shortage of teacher-educators. However this problem was solved by the College initiating a training programme to form a pool of lecturers and by overseas experts who had been assigned to the Teachers' Training College. The British Teacher Bursary, the Sino-British awards and other awards helped to increase the pool of teachers educators in a variety of fields.[9]

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[8] Doraisamy (ed.), op. cit., p. 74.

[9] Ibid.

TEACHER TRAINING

Training Teachers for an Industrializing Society

The rapid expansion in secondary school education posed enormous problems in teacher-training. Secondary school education requires specialization as well as general education. In order to meet the growing demand for specialized teaching skills and professional competence, courses for the training of technical, commercial and domestic science teachers were introduced throughout the period under review.

In 1962, science refresher courses for teachers of nature study and science in the primary schools were conducted by the College. The purpose of these courses was to enable these teachers to keep abreast with the latest developments in theory and practice in the teaching of science in primary schools.

In keeping with the policy of advancing technical education, eighty new students were admitted to the technical teacher training course. Four serving teachers were selected for appointment as assistant lecturers-in-training (technical) to study under UNESCO and Colombo Plan experts. The total number of technical teachers-in-training in 1962 was 122.

In 1964, an electrical fitting course in both Chinese and English was introduced as part of the technical

teacher-training programme. Also, a seminar on technical education was organized for principals and senior masters of secondary technical and vocational schools.[10]

In May 1966, a new three-year course specifically designed to train domestic science teachers was introduced in Teachers' Training College.[11] To provide qualified teachers for lower secondary school classes, there were courses for students with Higher School Certificate qualifications. University graduates were being trained at the College in growing numbers and to assist in their training as secondary school teachers, they were attached to the College experts from overseas, under the Colombo Plan, Fullbright, Aid to Commonwealth English, UNESCO and U.K. Overseas Development Ministry assistance schemes.

Training Teachers to Promote National Unity

In implementing the policy of Malay as the national language, the task of the Ministry of Education

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[10]Ministry of Education, Annual Report 1964 (Singapore: Government Printing Office, 1964), p. 16.

[11]Ministry of Education, Annual Report 1967 (Singapore: Government Printing Office, 1967), pp. 11-12.

had been to provide training facilities for the teaching of the language in Non-Malay Schools.[12]

In December 1959, the National (Malay) Language Examination for Standard I was conducted for teachers who had crash programmes of instruction at the Teachers' Training College. A total of 2,043 teachers passed the Standard I examination. In 1960, about 1,800 teachers received instruction up to Standard II level.[13] In 1961, 504 teachers attended national language courses. In 1962, of 503 qualified teachers who attended national language courses, 117 passed Standard I, the lowest, and 47 passed Standard II, the second lowest of the three standards, and none at Standard III, the highest. The total number of successful candidates was very low, with only about one third passing.[14]

There were 458 teachers in 1964[15] and 225 teachers

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[12]Ministry of Education, Annual Report 1960 (Singapore: Government Printing Office, 1960), p. 4.

[13]Ibid.

[14]Ministry of Education, Annual Report 1962 (Singapore: The Government Printing Office, 1962), p. 22.

[15]Ministry of Education, Annual Report 1964 (Singapore: Government Printing Office, 1964), p. 77.

in 1967[16] learning the national language.

Since 1959 more than 6,654 teachers had learned the national language.[17]

In order to encourage teachers to study the national language, the government introduced a bonus scheme for teachers in 1965. Any teacher who passed the Standard II National Language Examination was awarded a bonus of $200 Singapore dollars, and a further sum of $500 on passing the Standard III examination.

In 1964, there were 877 Malay teachers for the 25,164 Malay students, giving a teacher:pupil ratio of about 1:29;[18] in 1965, there were 1,121 Malay teachers and 32,326 students, giving a teacher:pupil ratio of about 1:28,[19] and in 1966, there were 958 Malay teachers and 25,196 students, giving a teacher:pupil ratio of

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[16]Ministry of Education, Annual Report 1967 (Singapore: Government Printing Office, 1967), p. 61.

[17]Information gathered from the Ministry of Education, Annual Reports, for the years 1959-1967.

[18]Ministry of Education, Annual Report 1964 (Singapore: Government Printing Office, 1964), p. 25.

[19]Ministry of Education, Annual Report 1965 (Singapore: Government Printing Office, 1965), p. 6.

1:27; in 1967, there were 1,784 Malay teachers and 36,142 students giving a teacher:pupil ratio of about 1:20.[20] This indicates that the bonus system was probably successful in increasing the number of teachers of Malay and also that the use of Malay as the second language for those students in other language streams was greatly increased, thereby fostering national unity through the use of the national language.

In Singapore, it was appropriate to equate teachers with their tremendous responsibility, to social engineers in the making of the nation.[21] Therefore, teachers were expected to impress on the youth that different races, religious and culture should not be a factor in determining friendships, co-operation and goodwill. The children should be led to see that other people, whether close at hand or on the other side of the world also belong to the same human family. This was one of the major tasks of education, a task aimed at providing a basis for co-operation and concord between

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[20] Ministry of Education, Annual Report 1967 (Singapore: Government Printing Office, 1967), p. 3.

[21] Straits Times (Singapore), May 6, 1966, p. 5.

the different people living in this region.[22]

Other New Training Programs

Other special teaching-related courses were provided by the Teachers' Training College in order to assist other government departments. Those courses included poster work for nurses from the Dental Nursing School, principles of teaching for nurses in the Public Health Department and special lectures for boys of the Gimson School.[23]

In-service courses for qualified teachers provided opportunities for the teachers to study new concepts in education and the latest teaching methods. 19 in-service courses covering subjects like English as a second language, new mathematics, arts and crafts, domestic science and physics and chemistry were conducted for 1,294 teachers in 1967.[24]

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[22] Sin Chew Jit Poh (Singapore), November 7, 1971, p. 6.

[23] Ministry of Education, Annual Report 1962 (Singapore: Government Printing Office, 1962) p. 20.

[24] Ministry of Education, Annual Report 1967 (Singapore: Government Printing Office, 1967), p. 12.

TEACHER TRAINING

By 1969, there were one-year full-time courses at the Teachers' Training College leading to the special qualifications required by teachers who wished to gain additional qualifications as infant mistresses, principal teachers of nursery schools, or as teachers of the deaf, the blind, or of children with physical or mental handicaps. Alternatively, teachers might obtain these qualifications by part-time study while teaching in an appropriate special school.

Teachers' Training College 1969

In 1959, as stated above, the Teachers' Training College was mainly a primary school teacher-training institution; by 1969 it had become responsible not only for primary school teacher-training but also for secondary school teacher-training and for specialised training and re-training of qualified teachers. In 1959, the primary school teacher-training programme did provide courses in languages, other than Chinese and English, in a systematic way: by 1969 there was a uniform system provided in all four languages.

In 1969, all new teachers at the secondary school level had to be university graduates or holders of an equivalent qualification and had to have taken a course

of teacher-training in order to obtain a teaching qualification in addition to their degree. Three-year-courses of education and training for prospective primary school teachers were provided in the Teachers' Training College.

Role of the University of Singapore 1969

By 1969, the School of Education of the University of Singapore was playing a crucial role in Teachers' Training by conducting a one-year post-graduate course leading to the Diploma in Education for graduates of the University of Singapore and other recognised universities.[25] The courses offered were theory of education, educational psychology, special methods of teaching, health education, principles of teaching, education in Singapore and Malaya, history of education and school practice.

The School of Education was really the focal point for a training organisation in which the courses, examinations and certification for teachers were the ultimate responsibility of the school.

Other Developments

During the period under review, several other innovations in teacher training were introduced.

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[25] Sin Chew Jit Poh (Singapore), July 4, 1960, p. 2.

TEACHER TRAINING

In order to allow teachers to upgrade themselves, serving teachers having completed six years' service were also eligible for half-pay leave of six months' duration to enable them to carry out further studies abroad. This policy was introduced in 1960.[26]

Other new developments occurred in 1965, including the introduction of the Certificate-in-Education courses in Malay and Tamil media for primary teachers-in-training and of the Certificate-in-Education courses in the Chinese medium for teachers of Commercial subjects and teachers with the Higher School Certificate qualification.[27]

In the same year, a research unit was established within the Teachers' Training College which conducted a number of interesting projects on educational and social problems affecting teachers.[28]

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[26] J.Y. Choo, personal interview, July 9, 1971.

[27] Ministry of Education, Annual Report 1965 (Singapore: Government Printing Office, 1966), p. 16.

[28] Ibid.

III. FUTURE DEVELOPMENTS

The Teaching Force 1969

Table 33 reveals that of the 18,588 total teacher population, 68.3 per cent of the teachers were in the government schools, 29.8 per cent in the government-aided schools and only 1.9 per cent in the private schools.

Table 33

The Numbers of Teachers in Government, Government-Aided and Private Schools 1969

Schools	Teachers	Percentages
Government Schools	12,703	68.3
Government-Aided Schools	5,543	29.8
Private Schools	342	1.9
Total	18,588	100.0

Source: Table PQ in Appendix.

Despite the possibility of direct control over the training of teachers, the government failed to develop a high quality teaching staff. Table 34 indicates that in 1969, of a total teaching force of 18,588, 84.4 per cent

were secondary school graduates and only 9.2 per cent were university graduates. The numbers of teachers who did not complete secondary were 6.4 per cent. The overall educational levels of the teachers were, therefore, rather low.

Table 34

Educational Levels of Singapore Teachers, 1969

	Number	Per Cent
University Graduates (or equivalent)	1,713	9.2
Secondary School Graduates	15,690	84.4
Teachers who have not completed secondary school	1,185	6.4
Total	18,588	100.0

Source: Table PQ in Appendix.

Tables 35 and 36 show that 99.6 per cent of the teachers in primary and 74.8 per cent in the secondary schools were at best secondary school graduates. The difference between the primary and secondary schools in the quality of their teaching staff is quite large.

TEACHER TRAINING

Table 35

Educational Levels of Singapore Primary Teachers, 1969

	Number	Per Cent
University Graduates (or equivalent)	44	0.4
Secondary School Graduates	10,950	91.6
Teachers who have not completed secondary school	957	8.0
Total	11,951	100.0

Source: Table PQ in Appendix

Table 36

Educational Levels of Singapore Secondary Teachers, 1969

	Number	Per Cent
University Graduates (or equivalent)	1,669	25.2
Secondary School Graduates	4,740	71.4
Teachers who have not completed secondary school	228	3.4
Total	6,637	100.0

Source: Table PQ in Appendix.

TEACHER TRAINING

The relatively low quality of teaching staff mitigates against pursuit of a vigorous industrialization policy. By failing to upgrade the teaching staff quickly enough, Singapore might well have substantially reduced the numbers and quality of its pool of highly qualified manpower. In 1969, the Singapore government acted in this regard and formed a policy that all teachers in secondary schools must have a university degree or equivalent qualification as well as a teaching certificate. This policy, if implemented, would have had substantial impact on the future of teacher training in Singapore after 1969.

Chapter 6

ADULT EDUCATION

I. THE ADULT EDUCATION BOARD

No consideration of educational developments in Singapore during the period 1959-1969 would be complete without discussing adult education, especially the varied activities of the Adult Education Board.[1]

Origin

With the end of the Second World War came a growing awareness of the importance of adult education in Singapore. Prior to December 1950, a number of separate voluntary organizations provided literacy and language classes and conducted lectures or meetings on topics of current interest. In December 1950, the Singapore Council for Adult Education was formed with a number of separate voluntary organizations as members. Soon after the People's Action Party came into power, the Lembaga Gerakan Pelajaran Dewasa (The Adult Education Board) Ordinance was passed in April 1960, establishing the Adult Education Board which was charged directly with the responsibility of arranging, sponsoring and promoting

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[1] Sin Chew Jit Poh (Singapore), September 9, 1968, p. 2.

adult education programmes throughout Singapore.[2] This opened a new page in the history of education in Singapore.

Structure and Operation

The Adult Education Movement was inspired by those who had a burning desire to change society[3] and received great impetus from the nation-wide campaign to popularize the national language. Since 1961, this great movement was fully supported by the government and by 2,355 volunteers who were teachers, members of parliament, policemen, civil servants, shopkeepers and students.[4]

The Adult Education Board consisted of a full-time chairman, a part-time deputy-chairman and nine part-time members, representing a wide range of interests including the Ministry of Labour, the Ministry of Finance, the Teachers' Training College, Nanyang University, the University of Singapore, and the Trade Union Movement.[5] The

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[2]Ministry of Education, Annual Report 1961 Singapore: Government Printing Office, 1961), p. 13.

[3]Nanyan Siang Pau (Singapore), May 9, 1960, p. 2.

[4]Sin Chew Jit Poh (Singapore), May 9, 1960, p. 5.

[5]K.H. Wong & Y.H. Gwee, Perspectives: The Development of Education in Malaysia and Singapore (Singapore: The Government Printing Office, 1972), p. 70.

chairman was assisted by a full-time director who, with a deputy director and five assistant directors, was in charge of the programmes organized by the Board.[6]

The Ministry of Education appointed all the senior professional staff who are professionally trained. The Adult Education Board was responsible for the recruitment of senior administrators and full-time teachers. During the last few years, a few senior members were sent abroad for training and all full-time teachers were trained in the Teachers' Training College. The Adult Education Board solicited higher institutes at home and abroad for help in training the staffs in order to raise the standard at all levels.[7]

Besides its own education training centre, it also used thirty-five day school buildings and all the community centres as centres of instruction.[8]

To meet the demands of national and professional development, it was necessary for the Adult Education Board to co-operate with all related public as well as private

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[6] Ibid.

[7] Sin Chew Jit Poh (Singapore), September 25, 1971, p. 12.

[8] Sin Chew Jit Poh (Singapore), September 26, 1971, p. 5.

organizations.[9] This co-operation with the various organizations was financed by the government. These organizations included the People's Community Centres, the Ministry of Finance, the Tourist Promotion Board and the Singapore Television Board. Here they discussed different questions concerning Adult Education, the supply of staff to conduct vocational training classes, the offering of educational programmes and the organization of extra-curricular activities for the students in adult education classes.[10]

The Adult Education Board established a special department to study the development and the direction of Adult Education in Singapore, the needs of the people and the improvement of teaching methods.

Singaporean society is pluralistic in its system and values. The spectrum of adult education has embraced numerous approaches to the improvement of the individual

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[9] Sin Chew Jit Poh (Singapore), September 25, 1971, p. 2.

[10] Sin Chew Jit Poh (Singapore), September 26, 1971, p. 5.

and his society. For the period under review, the programme of the Adult Education Board may be classified into four broad categories, namely:[11]

(i) Literacy and Language;

(ii) General Education;

(iii) Vocational Training, and

(iv) General Recreational courses.

Perhaps one of the most important objectives of adult education in Singapore in the period under review was to change the traditional attitudes of adults towards peoples of other races or tribes. The various racial or ethnic groups were physically and culturally separated from one another.[12] Among the immigrant communities, many adults still looked towards their countries of origin as objects of their loyalty. As for the indigenous people, tribal rather than national loyalty tended to prevail. Therefore something had to be done to unite the various races and re-orientate them toward a common Singaporean national identity, or their parochial outlooks would persist and probably be passed on to their

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[11] Sin Chew Jit Poh (Singapore), October 4, 1971, p. 3.

[12] Y.P. Lin, "A Survey of Education in Malaysia" (unpublished thesis, McGill University, 1967), p. 28.

children.[13]

In Singapore, the efforts of the Adult Education Board helped promote goodwill and co-operation among the various races. It was in the Adult Education centres that one found equal distribution of educational opportunities. The students could mingle in the spirit of acceptance and tolerance and could meet and discuss their different problems and ways of tackling them, including the causes of inter-racial friction.

II. PROGRAMS OF THE ADULT EDUCATION BOARD

Literacy and Language

Literacy. Literacy teaching is correctly a part of fundamental adult education.[14] In Singapore (1960) 33 per cent of the population was illiterate.[15] This dropped to 26 per cent in 1966, and this relatively high level of illiteracy was a serious obstacle to national development.[16] The Government realized that the swiftest way to eliminate

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[13] Ibid.

[14] Roy Prosser, Adult Education for Developing Countries (Kenya: East African Publishing House, 1967), p. 94.

[15] Nanyang Siang Pau (Singapore), May 9, 1960, p. 12.

[16] Department of Statistics, Singapore Sample Household Survey 1966 (Singapore: Government Printing Office, 1966), p. 61.

illiteracy was to promote adult education and considered important in this regard the program of the adult Education Board.[17] The Government announced that every citizen had an absolute right to have an education and that if any citizen was denied an education or was forced to discontinue an education because of economic conditions, then the country had the responsibility to provide some form of education to facilitate the exercise of that right.[18] In order to build and preserve a truly free society, adults who had never received any formal education throughout their lives had the right to learn Malay, Chinese, English or Tamil from scratch right up to the language level of the Secondary School Leaving Certificate.

Language. The language unit of the Adult Education Board attracted the majority of students. In 1969 there were more than ten thousand students studying different languages in thirty-five adult education centres and language centres. Most of them were studying Chinese, English or the national language. There were classes which taught local dialects such as Cantonese, Hokkien or foreign languages.[19]

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[17] Nanyang Siang Pau (Singapore), May 9, 1960, p. 14.

[18] Ibid.

[19] Sin Chew Jit Poh (Singapore), September 25, 1971, p. 12.

ADULT EDUCATION

Monthly enrolment of the literacy and language classes reached a record figure of 27,500 in July 1963,[20] rose to 29,000 in 1965[21] and to 31,000 in 1966,[22] influenced by Singapore's independence. The foreign language programme was expanded to include courses in Japanese, French, German, Russian, Spanish, Thai and Hindi. These courses were very well supported and attended by about 7,000 students.[23]

National Language. Besides offering the students the opportunity to improve their efficiency in languages, the Adult Education Board also played a prominent part in popularizing the study of the national language. It has participated actively in National Week and National Month

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[20] Ministry of Culture, Singapore Annual Report 1964 (Singapore: Government Printing Office, 1965), pp. 298-320.

[21] Ministry of Education, Annual Report 1965 (Singapore: Government Printing Office, 1966), p. 20.

[22] Ministry of Culture, Singapore Annual Report 1967 (Singapore: Government Printing Office, 1968), p. 264-273.

[23] Ministry of Education, Annual Report 1966 (Singapore: Government Printing Office, 1966), p. 15.

programmes sponsored by the Ministry of Culture. National language classes were organized not only in the evenings but also in the mornings and afternoons.[24] The Adult Education Board placed great emphasis on the national language with the major aim of cultivating a national outlook.

General Education

Primary, secondary and pre-university education classes, ranging from Primary VI to Pre-University II levels were conducted by the Board in the Malay, Chinese and English media, and in addition there was a Tamil-medium Secondary IV class.[25] Fees were very low and the students had to pay for their textbooks. The curricula and syllabuses followed in these courses, as well as the examinations taken at the end of Secondary IV and Pre-University II, were the same as in the regular school system. Classes were held three times a week, providing a total of nine hours of teaching a week. Secondary and

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[24]Ministry of Education, A Brief Review of Education in Singapore 1959-1965 (Singapore: Government Printing Office, 1966), p. 22.

[25]Ministry of Education, Annual Report 1961, (Singapore: Government Printing Office, 1962), p. 14.

pre-university education classes were held five times a week resulting in a total of fifteen hours of teaching a week. These primary, secondary and pre-university classes were generally conducted in the evenings in the buildings of day schools. Supplementary classes were held on Saturday afternoons and on Sundays for Secondary IV and Pre-University students. In June 1969, there were about 10,000 students in these classes.

The policy of keeping young people at school until the age of eighteen was impossible to implement in Singapore. During the late fifties and early sixties, because the existing schools were inadequate to meet the demands for places, the regulations for admission were extremely strict.[26] Schooling also had created a great problem for parents. Some schools even refused to accept grade 1 students because their own kindergarten classes could fill all the vacant seats.

Since 1960 secondary IV students and Primary VI students have had to sit for public school examination. If they failed the examination, they were not allowed to continue their studies in regular formal schools. Many failed

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[26] Nanyang Siang Pau (Singapore), May 9, 1960, p. 14.

the examination not because of their low I.Q. but because of poverty[27] or physical unfitness. Schools then were mainly concerned with mass production. Once the students failed and were over age, the schools flatly rejected them.

A programme for the students unsuccessful in Primary School Leaving Examination (PSLE) and above the maximum age (14-16) for primary schools was introduced by the Board in 1969.[28] It was a two-year course, classes were conducted at different schools in the city for fifteen hours a week - nine hours for general courses and six hours for practical work in factories.[29] Compulsory courses were language, practical mathematics, science, civics and one elective course from metalwork, woodwork, electrical and electronic engineering, domestic science or dressmaking.[30]

The Adult Education Board sought more technical assistance and the cooperation of factories for their educational planning in this area.

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[27] Sin Chew Jit Poh (Singapore), May 9, 1960, p. 2.

[28] Nanyang Siang Pau (Singapore), May 9, 1960, p. 13.

[29] Sin Chew Jit Poh (Singapore), November 17, 1971, p. 22.

[30] Nayang Siang Pau (Singapore), September 25, 1971, p. 12.

ADULT EDUCATION

The term "general education" is used to describe subjects normally found in the regular school curriculum. Such courses, as already mentioned, were offered at the primary, secondary and pre-university levels. The main concern of the programme was with the general education of the students in terms of social and cultural awareness. Students who were over-age and did not complete the general high school education programme were given a chance to study at night working for Secondary IV and Senior II certificates.[31] Single subject classes were offered to students who needed attention on certain subjects. It was here that the students who had endured the meagre diet of elementary schooling could gain a more adequate command of the 3R's. Regular students could also join these classes. Thus, adult education acted as a supplementary agent for the inadequacies of formal education of young school leavers who sought to advance their standards in order to make a productive contribution to society. This programme also offered training in kindergarten teaching for private kindergartens and community centres. General education occupied an important place in the adult education programme. In the future, in this area the Adult

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[31] Sin Chew Jit Poh (Singapore), May 9, 1960, p. 2.

Education Board hoped to raise its standards to meet the demands of society.[32]

Vocational Training

The Board also entered the field of vocational education. It concerned itself with persons who were in employment and wished to improve their ability to cope with their professional problems or gain additional qualifications, and those who wished to acquire new skills which had a direct vocational significance. Vocational considerations were paramount, and vocational subjects such as dress-making, dress-designing, advertising, furniture designing and book-keeping were offered. Dress-making and dress-designing classes introduced in 1963 proved very popular, because the skills learned by the students proved useful in helping many of them to set-up dress-shops or get employment in the clothing industry.[33] The Board ran a vocational institute, the Hai Sing Dewasa Institute, specially for women, which conducted stenography, accountancy, secretarial, clerical, tailoring and type-writing courses.

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[32] Sin Chew Jit Poh (Singapore), September 25, 1971, p. 12.

[33] Ministry of Education, A Brief Review of Education in Singapore (Singapore: Government Printing Office, 1966), p. 23.

ADULT EDUCATION

With the emergence of new technological and administrative occupations, the Adult Education Board, through the Department of Technical Education of the Ministry of Education, co-operated with the Industrial Training Board, public and private industries, and technical and commercial organizations, in order to offer more programmes in the future.[34] This indicates that the Adult Education Board was aware of the need for more and more industrial skills. It also realized that the keenest young people were above all anxious to pursue studies related to their work and to their own advancement. One of the aims here was to do something to meet the challenge of the rapidly changing society.

Recreational Courses

In addition to improving educational levels among adults, the Adult Education Board laid heavy stress on personal enrichment by organizing recreational, cultural and general knowledge courses for adults to occupy their leisure time enjoyably, to broaden their understanding of the world they lived in and to develop a sense

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[34] Sin Chew Jit Poh (Singapore), September 25, 1971, p. 12.

of social responsibility and generally to help adults to lead a full and interesting life. The following courses were very popular: woodwork, metalcraft, motor car maintenance and repair, radio servicing, building blue-prints, interior decoration, home furnishing, flower arrangements, beauty culture, orchid cultivation, oil painting, pastel drawing, water colour painting, portrait painting and silk screen painting. Hobby classes such as photography, horticulture, carpentry, taxidermy, art and craft were also firmly established. These hobby classes, usually undertaken for social ends rather than economic benefits, were very popular and the number enrolling in these classes were always in excess of the demand.[35]

Radio and Television

It has been acknowledged that broadcasting, whether sound or television, is an important cultural and educational agency.[36] In Singapore, in the period under review, adult education was supplemented by television and radio where subject lessons for the adult education classes

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[35]Ministry of Education, Progress in Education (Singapore: Government Printing Office, 1966), p. 23.

[36]John Lowe, Adult Education in England and Wales (London: Michael Joseph, 1970), p. 204.

were presented. The learning of modern languages and other subjects by seeing and hearing has special importance. The use of radio and television for adult education was well organized and the programmes were put on at regular times.

Radio and television can influence life in all its aspects. In adult education, television and radio can also serve as a channel of racial understanding by showing films and broadcasting plays and dramas focussing on how people can live in harmony. In Singapore with a great diversity of races and languages, films and plays of this nature might be extremely effective for cultivating racial understanding and tolerance.[37]

III. OTHER ADULT EDUCATION

Another branch of adult education was the sponsoring of lectures on topics of general interest such as history, economics, literature and philosophy. (This branch of adult education was well catered to by the Department of Extra-Mural Studies of the University of Singapore).

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[37] J. Niemi, Mass Media and Adult Education (New Jersey: Educational Technology Publications, 1971), pp. 21-36.

ADULT EDUCATION

Academic lectures should be conducted on a long-term basis. The speaker, apart from being an expert on his own field, would be able to impart his knowledge in such a way that will arouse the interests of the audience. When the students were interested, they would make use of the public library voluntarily to search for "spiritual food."[38]

The University of Singapore

The University of Singapore had since 1964 organized extra-mural programmes for the public at large. In June 1966, a Department of Extra-Mural Studies was formally set up with the aim of enabling people, in the midst of their daily pursuits, to take advantage of the facilities of the University for continuing education.

The Department organized for the calendar year two programmes of courses, each extending over a six-months period. Courses were mainly concerned with subjects appropriate for university sponsorship.

The University provided for the intellectual taste of middle and lower class men and women whose lack of means

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[38] Nanyang Siang Pau (Singapore), May 9, 1960, p. 2.

barred them from full-time higher education. In the period under review, the Extra-Mural Department played an important role indeed by making higher education a possibility for those who desired it.

Private Evening Schools

Apart from the government sponsored Adult Education classes, there were during the period under review, many private evening schools which offered a variety of courses, including languages and commercial subjects. Local libraries were also active in promoting informal education.[39]

IV. SUMMARY

Scholarships

One additional major problem remains unresolved, however, i.e. the degree of impact which the Adult Education Programme has had on the education of the poor. Sir Winston Churchill, one-time prime minister of Britain, remarked:

> A man or woman earnestly seeking in grown-up life to be guided to wide and suggestive knowledge in its largest and most uplifted sphere will make the best of all pupils in this age of clatter and buzz, of gape and gloat.[40]

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[39] Sin Chew Jit Poh (Singapore), September 26, 1971, p. 5.

[40] F.T. Willey, Education Today and Tomorrow (London: Michael Joseph Ltd., 1964), p. 122.

On this basis the writer suggests that the Adult Education Board should award scholarships to outstanding students. Scholarships to outstanding, but needy students might have been able to alleviate this problem to some degree. Similarly if the Adult Education Board had provided university degree programme in the evening on a part-time basis, accessibility would likely have been further enhanced.

These problems notwithstanding, the Adult Education Board's programmes have greatly improved educational opportunity in Singapore.

Future Plans of Adult Education Board

Some shortcomings of the Adult Education Programmes became evident as it developed during the period 1958-1969. In order to overcome some of these, the Adult Education Board planned to establish an adult education resource centre, a programme exchange centre and a research centre. When the time was ripe the Adult Education Board planned to publish a periodical in which adult education workers could discuss common academic and professional problems and exchange ideas and experiences.[41]

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[41] Sin Chew Jit Poh (Singapore), September 25, 1971, p. 12.

Other Remarks

During the eleven year period, the Adult Education Board carried out its policy effectively through the literacy and language programme, the extra-curricular programme, vocational training programme and television and radio programme. The Board implemented the government's plan to eradicate illiteracy and put into practice the multi-language policy, equal treatment for the four streams of education, improvement of economic development, nationhood-building and citizenship training.[42]

With vocational development and the equalization of opportunity, it is reasonable to assume that Singapore's adult education problem will steadily decrease as new measures prove effective. By 1969, adult education of all kinds was flourishing because the Board was able to understand and appreciate both the need and the demand.[43]

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[42] Sin Chew Jit Poh (Singapore), September 26, 1971, p. 5.

[43] Nanyang Siang Pau (Singapore), September 9, 1968, p. 12.

Chapter 7

SPECIAL EDUCATION

Special education in Singapore was begun by the church and welfare organizations. These were the Singapore Association for the Deaf, the Singapore Association for the Blind, the Singapore Association for Retarded Children, the Spastic Children Association, and the St. Andrew's Orthopaedic Hospital. (See Tables 37, 38.)

I. DEVELOPMENTS IN SPECIAL EDUCATION 1959-1969

The Deaf

In 1953, a group of businessmen formed a school management committee to set up a special school for the deaf children of the Chinese community. In 1954, the committee rented a house for the temporary premises of the Singapore Sign School for the Deaf.[1] Since 1958, this school has been subsidized by the Welfare Department. In 1969, it was combined with the Singapore Oral School for the Deaf. The Oral School was started by E.M. Goulden in

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[1] Doraisamy (ed.), op. cit., p. 79.

1951.[2] New premises were provided and up-to-date methods of teaching the deaf and partially hearing were made possible.

The Sign School taught the manual alphabet in Chinese while the Oral School taught the children to lip-read and to use their vocal faculties.

In 1969, the school had the most up-to-date and beneficial equipment available such as special trainers, group hearing aids, and individual hearing aids.

In the period under review, two other schools for the deaf were established, one by the Canossa Convent, the other by St. Andrew's Anglican Mission. In 1969, the former had 40 girls taught by the sisters of the convent, and the latter had 30 children in a preparatory class taught by volunteers. By 1971, 261 children were receiving training in the two schools.[3]

The curriculum for primary schools was offered to these pupils but they could proceed at their own rate and they sometimes required twice as long to complete their

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[2] A.L. Pereir and T.S. Peng, "Educating the Deaf in Singapore," The Handicapped, June 14, 1970, p. 37.

[3] The Singapore Herald, March 30, 1971, p. 4.

programme as children in the regular primary school. Upon completing the programme they were eligible to sit for the Primary School Leaving Examination with regular primary school pupils.[4]

The Blind

The Singapore Association for the Blind started the school for the blind in 1956 and was able to accommodate blind children of primary school age. In 1969, it had sixty-seven resident students and the regular primary school curriculum was offered in braille and oral teaching.[5]

The achievements from these programmes were very impressive. During the primary school examinations in 1966, all the blind pupils who sat for the examination passed.

A program for integrating blind pupils with regular elementary school children was begun in 1967. Since then more and more blind students attended regular

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[4]Information gathered from the Department of Social Welfare, personal interview, July 9, 1971.

[5]Information gathered from the Department of Social Welfare, personal interview, July 9, 1971.

classes as well as a resource period where a remedial teacher offered assistance. Having a resource person for these pupils proved to be of tremendous benefit.[6]

For pupils over sixteen years of age the school had an industrial training centre and an occupational workshop. Courses having vocational value such as working with cane, woodwork, chain jewelry, making wire fences, and working on assembly lines were offered. Handwork for boys such as making mats, baskets, and chains, and for girls such as needlework, knitting, cooking and the care of the home were also part of the curriculum.[7]

The objective of all this training was to develop skills for these individuals in order that they might be engaged in gainful employment and thus achieve some measure of independence when they left school.

Extra-curricular activities such as sports, aquatics, music and hiking were also included in the

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[6]Information gathered from the Department of Social Welfare, Personal Interview, June 9, 1971.

[7]N. Row, "School for the Blind," The Handicapped, June 14, 1970, p. 19.

programs. Horticulture was started in 1968 and the pupils certainly enjoyed the flowers they had planted.

For the development of motor abilities, a gymnasium and a playing field were constructed in 1969.[8]

The use of the reading lens increased the amount of work the partially sighted children could do.

The Slow Learners

In 1960 the Rotary Club assisted the Singapore Children Society in starting a pilot project for a day-training centre for eighteen slow learners. In 1962 the Singapore Association for slow learners was formed to provide children with care, therapy and training.[9] In 1968 a new school for these children was inaugurated. With financial assistance from the government the school had an enrolment of four hundred children with ages from five to sixteen in 1969. But there still was a waiting list of 1,579 children.

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[8] Doraisamy (ed.), op. cit., pp. 78-79.

[9] F.M. Paul, "Subnormality in Singapore Children," Workshop on Special Education in Singapore, August 16, 1972, p. 31.

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The children in this school were of three categories:

1. the very slow
2. the trainable
3. the educable.

There were fifty children in the first group. A domestic staff headed by a matron attended to these children. Volunteer workers planned trips and recreational activities.

The second group was given training in good working habits and helped to lead a life as close to normal as possible.[10]

The third group was taught the three Rs, the practical use of money, time and simple measurements. Shopping, cooking, gardening, handwork and sewing were also offered. On week-ends camping trips and excursions were organized. On these trips the pupils learned such practical skills as buying tickets for the bus fare and meeting other people as a lesson in socializing.

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[10] Y.T. Chen, "Care of Retarded Children and Young Persons," Workshop on Special Education in Singapore, August 16, 1972, p. 12.

SPECIAL EDUCATION

In addition music and physical education were also offered to these children. Simple dances assisted the development of rhythm.

A withdrawal program was also available for pupils over sixteen years. They worked in a sheltered workshop for different factories in the city. They stuffed dolls, and trimmed garments. All these were done by contract with factories. In 1971, the centre had an enrolment of 2,855 and about one tenth of these children (about 300) were in the various training programs.[11]

Crippled Children

The Red Cross Home for Crippled Children was started in 1949. It took care of crippled children who could not make the trip to school. It could receive forty boys and girls.[12]

Classes were held in the building for children who were six years or over. These classes were from 1 p.m. to 5:30 p.m. Monday to Friday and were conducted by two

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[11] The Singapore Herald (Singapore), June 3, 1971, p. 7.

[12] C.M. Drieberg, "Red Cross Crippled Children's Home," Workshop on Special Education in Singapore, August 18, 1972, p. 38.

trained teachers employed by the Ministry of Education. They used the regular school syllabus in order to eventually integrate these pupils into the regular schools.

Children under six years old attended kindergarten set up and taught by lady volunteers from the Royal Armed Forces.

The St. Andrew's Orthopedic Hospital was opened in 1939 to treat children with bone and joint tuberculosis.[13] The St. Andrew's mission was responsible for administering the hospital until 1946 when the Singapore government also had control of the hospital. The St. Hilda's Extension School was opened in 1947 for children of the pediatric and orthopedic units of the hospital as well as from the General Hospital.[14] In 1968, the hospital had 120 children attending the school. One third of these were in kindergarten.[15] Classes were held from 8:30 a.m. till 12:30 p.m. and the teacher pupil ratio was 1 to 20. When the school opened the teachers were all volunteers.

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[13] G. Tan, "St. Hilda's Extension School," The Handicapped, June 14, 1970, p. 75.

[14] Ibid.

[15] Sin Chew Jit Poh (Singapore), June 6, 1968, p. 5.

SPECIAL EDUCATION

By 1952 part-time and full-time teachers were hired to teach these classes. In 1968, the curriculum was that of the regular school and there had been pupils who had gone from here into the regular school system.

The Spastic Children Association of Singapore was founded in 1957. For several years only small groups of children were taught due to a shortage of classroom space. In 1960 the government provided adequate premises for this organization and since then an expanded program including workshop, making furniture with cane, woodwork, and training to assemble parts of machines have been possible.[16]

Undernourished Children

The Singapore Children Society was founded in 1952. This was a volunteer organization funded by public donation and government grants. It offered a convalescent home and medical treatment for children and orphans who were poor, sick, and neglected. There were 141 children admitted in 1967 and 75 per cent suffered from malnutrition. Many of these children came from homes with low-socio-economic

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[16] S. Oh, "School for Spastic Children," The Handicapped, June 14, 1970, p. 104.

levels and their improper diet resulted in poor performance in school.[17]

Children with Leprosy

The Lorong Buang Government School was started in 1947 as a residential school for children with leprosy. This school was supported by the government as well as by the Singapore Leprosy Relief Association. With early treatment these children would have few deformities, but the greatest obstacle in their rehabilitation has been the stigma of the disease. Primary and secondary education were available at no cost at all.[18] The children could participate in Boys Scout, Girl Guides, and Youth Clubs. These activities could develop a positive and optimistic outlook and a more socially well-adjusted individual.

II. SPECIAL EDUCATION 1969: AN ASSESSMENT

The educational system in Singapore, as set up by the government, had, in 1969, no provision for special

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[17] T.H. Ching, "Singapore's Children Society, Convalescent Home," Workshop on Special Education in Singapore, August 16, 1972, p. 37.

[18] A. Yeo, "Lorong Buang Kok Government School (Trafalgar Home)," Workshop on Special Education in Singapore, August 16, 1972, p. 43.

education.[19] As noted above, children in need of special help had to be aided by agencies outside the regular school system.

This is most unfortunate, since every child has a presumptive right to be in a regular classroom, and every child must receive an assessment of his or her need for a special program.[20] For a special program, the school must prove that a special classification is warranted, and the program must be provided.[21]

The number of children cared for in 1969 was low -- only 849. (See Table 37.) One factor underlying the small number of children in special education classes probably was the known shortage of teachers. In fact, even with the small number of children, the size of the classes were larger than they should have been. Another factor was that the budget set up by the government for the subsidy of these schools was limited. (See Table 38.)

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[19] The Singapore Herald, March 4, 1971, p. 4.

[20] N. Perry, Teaching the Mentally Retarded Child. (New York: Columbia University Press, 1970), pp. 222-224.

[21] J. Richardson, "The Educational Needs of Handicapped Children," The Handicapped, June 14, 1970, p. 115.

Table 37

The Numbers of Children, Teachers/Instructors in Special Education Institutions in Singapore, 1969

Organisation	Name of Institution	No. of centres	Type of children	No. of children	No. of teachers/instructors
1. Canossa Convent	Canossa Convent Oral School for the Deaf	1	Deaf and partially hearing	40	4
2. St. Andrew's	St. Andrew's Preparatory Classes for the Deaf	1	Deaf and partially hearing	30	12**
3. St. Hilda's School	St. Hilda's Extension Aid School	1	Bed-ridden in hospital	80	6
4. Singapore Association for Retarded Children	Chia Pu Centres at Sims Avenue Pasir Panjang Cutrose Taman Jurong	4	Mentally retarded	195	11
5. Singapore Association for the Blind	School for the Blind	1	Blind and partially sighted	67	9
6. Singapore Association for the Deaf	School for the Deaf	1	Deaf and partially hearing	191	14
7. Singapore Children's Society	School at the Convalescent Home	1	Sick and under-nourished	28	1
8. Singapore Red Cross Society	Red Cross School for Physically Handicapped Children	1	Crippled	36	2
9. Spastic Children's Association	Spastic Children's Association School	1	Spastic	133	10
10. Ministry of Health	Lorong Buang Kok School (Trafalgar Home)	1	Leprosy patients	49	20
	Total	13		849	89

* June, 1969.

** Instructors are volunteer workers who teach one to

Source: Based on information gathered from the Department of Social Welfare, Singapore, July 7, 1971.

SPECIAL EDUCATION

Table 38

The Numbers of Teachers/Instructors and the Amount of Financial Assistance Provided by the Government For Organizations Providing Special Education, 1969

Organization/School	Staff provided		Financial assistance given		
	Teachers	Instructors	Staff emoluments	Other grants	Total
			$	$	$
1. Canossa Convent Oral School for the Deaf	-	-	-	20,374.50	20,374.50
2. St. Hilda's Extension Aid School	3	-	17,205.50	-	17,205.50
3. Red Cross School for Physically Handicapped Children	2	-	19,497.25	-	19,497.25
4. Singapore Association for Retarded Children	4	-	25,024.00	-	25,024.00
5. Singapore Association for the Blind	4	2	36,8[illegible]3.90	28,972.50	65,851.40
6. Singapore Association for the Deaf	9	6*	72,373.50	12,000.00	84,373.50
7. Singapore Children's Society	1	-	3,998.00	15,000.00	18,998.00
8. Spastic Children's Association	7	-	46,220.23	4,200.00	50,420.23
Total	30	8	221,177.38	80,547.00	301,724.38

* Includes one assistant instructor.

Source: Information gathered from the Department of Social Welfare, Singapore, 1971.

Furthermore, only forty pupils could get a free education on a first-come-first-served basis. The remaining number of students had to pay for whatever education they wished to receive.[22]

Some pupils were able to shift to the regular primary schools, but they were few in number. Those who remained in these classes were given vocational training such as home economics for girls and woodwork for boys.[23]

In 1969 the special education classes were plagued by many problems: more text books in braille were needed, better communication between parents and teachers, more teachers trained to teach children in need of special treatment, more support staff, and more teacher's aids for the continuing increase in the number of pupils. Another problem was that many of the school children were malnourished: if free milk and inexpensive but nutritious meals had been provided for all children in school who came from homes that could not provide them, then they might have been more successful in school. All of these

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[22]The Singapore Herald, March 5, 1971, p. 4.

[23]Information gathered from the Department of Social Welfare, Personal Interview, July 7, 1971.

problems, partially at least, stem from a chronic shortage of funds.[24]

It is hoped that in time these inadequacies can be reduced to a minimum level and that the schools will be able to prepare these children for a more profitable and purposeful life.[25]

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[24]F.Y. Long "Child Guidance Clinic in Singapore," The Handicapped, June 14, 1970, p. 128.

[25]E.P. Liang, "Foreword," The Handicapped, June 14, 1970, p. 1.

Chapter 8

CONCLUSION

Singapore obtained complete independence in 1965. The political and economic transformation required the reorientation of education policy. Education, since then, has become an instrument to achieve the Republic's survival. As Singapore's survival hinged on industrialization, it had presently adopted a new flexible education policy which not only advocated the continuity of a unified national education system based on the principle of parity of treatment for four official language streams, Malay, Chinese, Tamil and English, with schools using syllabuses of common content, but also laid stress on technical education and industrial training to meet the manpower requirement of industrial productivity.

Therefore, in the educational system, there were three major goals: the principle of parity, education for national unity and education for industrialization.

The Principle of Parity

The principle of parity was based on equal treatment for the four language streams, English, Chinese, Malay and Tamil. The first step the government took in the area of

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primary education was to provide a six-year free primary education to all children, in all the four language streams.

These schools were using syllabuses of common content; they had the same pupil-teacher ratio requirements and the pupils sat for the same levels of examination which were conducted in different streams. Furthermore, all needy children could apply for free textbooks and bursaries.

The educational system in Singapore, as set up by the government, had, in 1969, no provision for special education. This is most unfortunate, because every child in Singapore had a fundamental right to be in a regular classroom for at least six years.

Before 1964, pre-school education was plainly sponsored by private organizations. It was in 1964 that the Peoples' Association provided kindergarten education to the community centres for the poor.

Although special education and pre-school education were excluded in the educational system, there was a marked increase in the number of children enrolled in primary and secondary schools from 1959 to 1969.

CONCLUSION

Policies regarding bilingualism were a constant theme in Singapore's education history. The writer found it was in the pre-school institutions, where most children learn languages fast and well. The problem was there were not enough pre-school institutions in Singapore. In order to develop bilingualism, a second language paper had been a compulsory subject for all students in primary and secondary schools. In 1966, some of the school subjects were even taught in a second language. In spite of strong emphasis given to the learning of a second official language besides the language of instruction, the results had so far proved to be generally disappointing. This was not due to any lack of enthusiasm but to a failure to understand the educational implications of language policies.

Though the government had implemented its policies for equality of treatment, the difficulty in finding a job after graduation led to sharp decline in enrolment for new Primary classes in Chinese, Malay and Tamil schools. The fact of unequal opportunities for employment presented a problem. Thus, there was a fundamental contradition in the government's policy. On the one hand the government promoted equal treatment for the four language streams, and on the other hand it encouraged industrial development based on English.

CONCLUSION

Education for National Unity

Singapore is a pluralistic society. Its peoples differ widely in race, language and religion. To achieve "unity in diversity" is not an easy task. To act as a bridge to span simultaneously the four streams of education and to unify a community composed of different races, the establishment of one national language was vital. Malay was chosen as the nation language to provide a common link for undivided loyalty to one another and to the state.

Since Malay was established as the national language of Singapore, all the schools and the Adult Education Board placed great emphasis on it with the major aim to cultivate a national outlook.

In spite of the full support that had been given to the founding of the national language, the results were unsatisfactory. One of the reasons was that Malay language commanded no economic value. The reduced emphasis on Malay as the national language in the late 1960's was the direct result of the desire for industralization.

Since 1959, a Textbooks and Syllabuses Committee was formed to draw up syllabuses with a common content in all the four language streams. The tasks given to this

CONCLUSION

Committee were to make syllabuses suitable to the environment and experience of the pupils and aimed at cultivating national consciousness in schools.

Most of the textbooks used currently in schools did reveal the multi-cultural nature of Singapore. These policies coupled with the fact that a common curriculum was followed in all schools, was seen as an answer to the problems of fostering a cultural and national identity.

It is debatable that a common content curriculum, bilingualism and Singapore-oriented textbooks used as a tool in the nation-building process can be an adequate answer to the problem of fostering a culture that will appeal and be accepted by the various ethnic groups in Singapore. Between the English-educated and non-English educated there exist a big cultural gap. Furthermore, the very nature of the various cultures were changing: rapid urbanization, cultural transformation and the emerging ethos of a technology-oriented society was taking place at a bewildering pace. The school system is an important socializing medium, but it is only one of the many, and the transformation of the wider society cannot help but impinge upon the school. Though common-content syllabuses exist, they were devised with the limited subject teaching

aims that characterized most syllabuses and not with the broader, more positive role.

Since 1960, 84 schools were merged as integrated schools. The integrated schools were meant to enhance the level of bilingual competence of the pupils as well as to build the conditions of contact that would breed tolerance among pupils of different-language streams. However, the findings of a recent sociological survey carried out by two Singapore University undergraduates into the relationship between English stream and Chinese stream students in integrated schools (as reported in Singapore Herald, January 7, 1971) revealed that children attending integrated schools tended to show greater communal intolerance than students in single-stream schools. According to a recent survey the writer personally made, the Teachers' Training College which centralises the four official language streams, teacher training also shows this persistence of communal intolerance. Many teachers in integrated schools the writer interviewed recently told her a more or less similar story: pupils and even the teaching staff of two or more different streams, even though studying and working under the same roof of a school building, seldom mixed. Racial and language prejudices still prevailed. This, the writer believes, is where the fault lies. The government, was well aware of this development.

CONCLUSION

However, the integrating different peoples into a multi-racial nation is a mission of great immensity, and demands for the highest level of economic, social and political planning.

Education for Industrialization

After the independence of Indonesia and Malaysia, Singapore's entrepôt trade declined. Its key to survival depended on industrialization. Since then one of the aims of the government's educational policy was to equip the youth with requisite skills for employment in industry. Since 1959, there was a revision of the curriculum to emphasize practical subjects like mathematics and science. Syllabuses in technical subjects were drawn up since 1962.

The secondary school curriculum underwent a major revision in 1969. More emphasis on more sophisticated technical subjects were introduced. All boys in Secondary I and II classes had to take technical subjects. The girls had the choice of studying domestic science or take up those technical subjects. At the same time, technical subjects at Higher School Certificate level were introduced. Since 1969, enrolment in technical stream expanded steadily.

Problems of premature specialization and rigid streaming of pupils at Secondary I and II levels, into

academic and technical categories at an early age could, it was hoped, be surmounted. Singapore's national goal of increased industrialization meant that more women had to work in industry. But more than sixty per cent of the regions were not served by Day Care Centres.

The policy of industrialization was geared to a world market where English is almost the international language. Therefore, English undoubtedly assume a more important role. Thus, the policy of language parity came into conflict with the goal of industrialization.

Recommendations

Having identified the major problems in the study, the writer suggests the following recommendations:

(1) The government should establish more crèches and children's centres for children of working mothers.

(2) Multi-lingualism and racial integration should be started in pre-school institutions such as kindergartens and children's centres. The Government should take over all the kindergartens (all are private-owned and operated at present), make them an integral part of the education system, and then provide a two-to-three year free kindergarten education compulsory for every child in Singapore. With the base of bilingualism and racial integration

firmly established in these kindergartens, the socio-cultural problem of the "heaviness and unwieldiness" of the multi-lingual syllabuses in both primary and secondary schools would be solved and the racial gulf greatly narrowed.

(3) It is crucial to give equal weight to the first and second language in primary and secondary schools in order to ensure adequate learning of the second language.

(4) It is necessary and important to set up a Language Teaching Research Unit for delving into problems of language teaching: too little is known at present about the problems involved.

(5) All the primary and secondary schools in Singapore should be transformed into integrated schools in order to foster racial harmony. Along this direction, education would help mold a common identity among the various races of Singapore.

(6) The government should ensure equal distribution of employment opportunities for students from vernacular schools, in order to bring about true equality of treatment.

(7) The Government Manpower Committee on Secondary Schools and higher learning and the Ministry of

CONCLUSION

Education must work closely in planning programmes so that policies will not be at cross-purposes.

(8) Teacher Training College should initiate courses for bilingualism so that teachers would be better able to cope in integrated schools.

(9) The Department of Adult Education should award scholarships to outstanding students as encouragement in order to maximize equal educational opportunity.

(10) Courses leading to university degrees in extramural departments should be offered by the University of Singapore.

(11) An intense commitment is required in Special Education.

(12) Special Education should concentrate more on building a satisfactory self-image of students, and on teaching them skills for earning a living.

(13) The economic and political realities in Singapore encourage the rapid expansion of technical training. It is hoped that, while adapting education to the needs of an industrialized society, education should not overemphasize science and technical training at the expense of humanistic studies and human

development. While inculcating habits of industry and reaching out for excellence, education should not lose sight of the things that make life worth living - the fulfilment of our physical, emotional, intellectual and spiritual needs. Besides enjoyment of sports, other forms of relaxation, such as the appreciation of arts and literature, enrich our lives and constitute the culture of a people.[1]

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[1] Poh Seng Png, "Education and Social Change: Past and Present," Education and Social Change, May 1, 1970, p. 5.

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APPENDIX

Table PQ

The Number of Teachers by Type of Qualifications in The Government Schools, Government-Aided Schools and Private Schools, 1969.

Qualification	Approved graduates or equivalents						Other teachers who have completed Secondary School						Teachers who have not completed Secondary School						Total								
	Trained		Trainee		Untrained		Trained		Trainee		Untrained		Trained		Trainee		Untrained		Trained		Trainee		Untrained		Total		
Type of School	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	Total
Government Schools																											
Primary	-	3	-	-	-	-	2001	4032	348	652	13	24	324	196	26	15	1	3	2325	4231	374	667	14	27	2713	4925	7638
Secondary	387	366	43	89	10	14	2117	1281	265	268	24	9	156	34	-	-	1	1	2660	1681	308	357	35	24	3003	2062	5065
	387	369	43	89	10	14	4118	5313	613	920	37	33	480	230	26	15	2	4	4985	5912	682	1024	49	51			
Total	756		132		24		9431		1533		70		710		41		6		10897		1706		100		5716	6987	12703
Government-Aided Schools																											
Primary	-	1	3	4	1	-	1021	1024	18	39	350	358	37	45	-	-	38	182	1058	1070	21	43	389	740	1468	1853	3321
Secondary	151	97	19	23	50	17	173	55	4	6	37	24	14	4	-	-	-	-	538	155	23	29	87	41	448	226	674
Full - Pr. Dept.	-	1	-	-	1	-	138	374	5	20	36	111	9	19	1	1	16	10	147	394	6	21	53	121	206	536	742
Sec. Dept.	131	138	11	26	42	26	123	198	5	14	40	35	2	15	-	-	-	-	256	351	16	40	82	61	354	452	806
	282	237	33	53	94	43	1455	1651	32	79	463	728	62	83	1	1	54	192	1799	1971	66	133	611	963			
Total	519		86		137		3106		111		1191		145		2		246		3770		199		1574		2476	3067	5543
Government and Gov't-Aided	669	606	76	142	104	57	5573	6964	645	993	500	761	542	313	27	16	56	196	6724	7883	748	1157	660	1014			
Total	1275		218		161		12537		1644		1261		855		43		252		14667		1905		1674		8192	10034	18246
Private Schools																											
Kindergarten	-	18	-	1	-	5	-	25	-	22	1	108	-	3	-	5	2	23	-	46	-	28	3	136	3	210	213
Primary	-	5	-	-	-	1	-	8	-	-	4	7	-	-	-	-	-	1	-	13	-	-	4	9	4	22	26
Secondary	2	6	-	2	9	10	-	1	-	-	12	19	-	-	-	-	-	1	2	7	-	2	21	30	23	39	62
Full - Pr. Dept.	-	-	-	-	-	-	-	3	-	2	2	4	-	-	-	-	-	-	-	3	-	2	2	4	2	9	11
Sec. Dept.	-	-	-	-	-	-	11	5	1	-	3	10	-	-	-	-	-	-	11	5	1	-	3	10	15	15	30
	2	29	-	3	9	16	11	42	1	24	22	148	-	3	-	5	2	25	13	74	1	32	33	189			
Total	31		3		25		53		25		170		3		5		27		87		33		222		47	295	342
	671	635	76	145	113	73	5584	7006	646	1023	522	909	542	316	27	21	58	221	6797	7957	749	1189	693	1203			
Grand Total	1306		221		186		12590		1669		1431		858		48		279		14754		1938		1896		8239	10349	18588

Source: Ministry of Education, Singapore Annual Bulletin of Statistics, 1969 (Singapore: Government Printing Office, 1969).

* Excludes 653 relief teachers of whom 6 are in private schools.