# The Teachers' Training College/Institute of Education Library in post war Singapore, 1950-1991: a historical perspective

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**ABSTRACT**

*This article is a study on the historical development of the Teacher's Training College (TTC) library in two phases. From 1950 to 1973 it was known as the TTC library and from 1973 to 1991 it became the Institute of Education (IE) library after the TTC was converted into the IE. It refers widely to the annual reports of the TTC and IE and other official education reports to have an in depth understanding of the historical development of the library. Throughout the two phases of development study identifies the lack of recruitment and deployment of professional library staff to manage a specialized education library. By retrieving specific data from official library surveys the study shows how the collection of the library evolved from print to include non-print items during the years 1964, 1969, 1975, 1983 and 1989 and the gradual progress being made to improve its collection. The second phase of the library shows how the Library set up its organization structure and adopted the use of information technology and the implementation of an integrated library management system.*

**Keywords:** College libraries; Academic librarians; Teacher education; Teachers training college library; Historical study.

**INTRODUCTION**

Sir Stamford Raffles founded Singapore on behalf of the East India Company (EIC) in 1819 (Chew 1991). In 1826 the three British settlements of Singapore, Penang and Malacca were amalgamated to form the Straits Settlements (Jarman 1998). Singapore did not have a native population and the three main races of Chinese, Malay and Indian came into the island at some time or another. By 1891 the Chinese was the major racial group consisting of 67.1 per cent of the population, followed by the Malay with 19.7 percent and the Indians with 8.8 per cent (Saw 1969). In 1867 the Straits Settlements, consisting of Singapore, Penang and Malacca were transferred from the control of the Indian Government to that of the Secretary of State for the Colonies in London (Jarman 1998). Singapore became the centre of government, commerce and policy making (Turnbull 1989).

The Education Department was established in 1872 to expand government Malay schools, government English schools and Government aided English schools (Wong and Gwee 1980).The first Malay College to train Malay school teachers was opened in 1878 (Winstedt 1923) and was shut down in 1895 (Bazell 1921).

The Federated Malay States (FMS) comprising Selangor, Perak, Negri Sembilan and Pahang was established on 1 July 1896 (Khoo 2001).In 1909 the British completed the takeover of Perlis, Kedah, Kelantan and Trengganu with the signing of the Anglo-Siamese Treaty. These four states and Johore (which did not receive a British Advisor until 1914) were collectively known as the Unfederated Malay States (UMS) (Cheah 2001).British Malay thus consisted of three parts, the Straits Settlements, the FMS and the UMS, but all were effectively under British control (Carrington 1956).

In 1906 the control of education in the Straits Settlements and the FMS was vested under a Director of Education (Winstedt 1923).Raffles College was set up in 1928 to meet the urgent need for qualified teachers for English secondary schools and to offer facilities for training in scientific subjects. These were three-year diploma courses in Arts and in Science subjects (McLean 1939)

After 123 years of British rule, Singapore's ties with Britain were interrupted on 15 February 1942 when the British surrendered unconditionally to the Japanese Army (Thio 1991). The formal surrender of all Japanese forces in Southeast Asia took place on 12 September 1945 at the City Hall (Thio 1991).

After the war there were two specific problems in connection with student enrolments: (a)There were those pupils who had lost four years of school life and were anxious to make good the loss as quickly as possible; and (b)There were also all those pupils who would have been admitted to primary classes during the four years. From various causes including internment and violent death, the staffs of schools were reduced to alarming proportions (Frisby 1948). In 1946 the Malayan Union consisting of nine states in the Malay Peninsula and the two British Settlements of Penang and Malacca were formed excluding Singapore. The Settlement of Singapore was constituted as a separate colony in view of its economic and other interests (Straits Times 1945). The ten-year programme for education (1947-1956) was implemented in the following year to ensure that equal opportunity should be given to children of all races. Hence the government provided universal free education through the medium of one or other of the following languages – Malay, Chinese, Tamil and English (Balakrishnan 1978). More teachers had to be trained due to the rapid expansion of schools as indicated in Table 1.

By 1947, five different teacher training courses were conducted in Singapore:
   a) The English Normal Course.
   b) The Training Class for Teachers of English in the vernacular and private schools.
   c) The Chinese vernacular normal course.
   d) The Training Class for Tamil teachers (Lun and Chan 1983).
   e) The Training Class for Malay vernacular teachers (other Malay teachers continued to be trained at colleges outside Singapore – at the Sultan Idris Training College (SITC), Tanjong Malim and the Malay Women's Training College (MWTC) in Malacca (Doraisamy 1969).

Table 1: Expansion of Various Types of Schools in 1938, 1947, 1955 and 1957

| | 1938 | 1947 | 1938-47 | 1955 | 1947-55 | 1957 |
|---|---|---|---|---|---|---|
| Malay boys' school | 19 | 8 | - | 11 | + 38% | 11 |
| Malay girls' school | 6 | 7 | - | 11 | + 57% | 11 |
| Malay mixed school | 0 | 20 | - | 41* | +101% | 43* |
| Total Malay schools | 25 | 35 | + 40% | 63 | + 80% | 66 |
| | | | | | | |
| Total boys' enrolment | 3,587 | 4,621 | + 29% | 6,681 | + 45% | 7,238 |
| Total girls' enrolment | 641 | 1,842 | +187% | 4,914 | +166% | 6,181 |
| Total Malay schools enrolment | 4,228 | 6,463 | + 53% | 11,595 | + 79% | 13,419 |
| | | | | | | |
| English boys' school (government) | 13 | 12 | - 8 % | 29 | +142% | 40 |
| English boys' school (aided) | 9 | 9 | 0% | 16 | + 78% | 21 |
| | | | | | | |
| English girls' school (government) | 1 | 1 | 0% | 12 | +1,100% | 20 |
| English girls' school (aided) | 6 | 7 | + 16% | 12 | + 71% | 22 |
| English mixed school (government) | NA | NA | NA | 78 | - | 117 |
| Total of English schools | 29 | 29 | 0% | 147 | + 407% | 220 |
| Total boys' enrolment | 10,359 | 13,190 | + 27% | 52,782 | + 300% | 75,921 |
| Total girls' enrolment | 4,233 | 6,639 | + 57% | 32,822 | | 51,932 |
| Total English schools enrolment | 14,592 | 19,829 | + 36% | 85,604 | + 332% | 127,853 |
| | | | | | | |
| Chinese boys' school (aided) | NA | 3 | - | 3 | 0% | 3 |
| Chinese girls' school (aided) | NA | 5 | - | 3 | - 40% | 4 |
| Chinese mixed school (aided) | NA | 41 | - | 211 | + 415% | 226 |
| Chinese mixed school (government) | - | - | - | - | - | 9 |
| | | | | | | |
| Chinese boys' school (private) | NA | 4 | - | 2 | - | - |
| Chinese girls' school (private) | NA | 0 | - | 3 | - | 2 |
| Chinese mixed school (private) | NA | 101 | - | 51 | - | 35 |
| Total Chinese schools | 329 | 154 | - 43% | 273 | + 77% | 279 |
| | | | | | | |
| Total Chinese schools enrolment | 28,411 | 53,478 | + 88% | 94,244 | + 76% | 117,374 |
| Total boys' enrolment | NA | 36,877 | - | 60,358 | + 64% | 70,480 |
| Total girls' enrolment | NA | 16,601 | - | 33,886 | +104% | 46,894 |
| | | | | | | |
| Tamil boys' school (aided) | NA | 1 | - | 1 | - | 1 |
| Tamil girls' school (aided) | NA | 1 | - | 3 | - | 1 |
| Tamil mixed school (aided) | 3 | 3 | - | 14 | - | 15 |
| Tamil mixed school (private) | 8 | 6 | - | 0 | - | 0 |
| Total Tamil schools | 11 | 11 | 0% | 18 | - 64% | 17 |
| Total Tamils schools enrolment | 538 | 919 | + 71% | 1,258 | + 7% | 1,351 |
| Total boys' enrolment | NA | 457 | - | 464 | +13% | 523 |
| Total girls' enrolment | NA | 462 | - | 794 | + 4% | 828 |

Sources: Linehan (1939, 168 & 204-207); Neilson (1948, 29, 100, 109 & 112); McLellan (1957, 26-27); Ministry of Education (1959, 99-101 & 110-112).

## TEACHERS' TRAINING COLLEGE LIBRARY, 1950-1973

The Teachers' Training College (TTC) was formally opened in March 1950 to house 762 students, in a dilapidated secondary school building at Cairnhill (Tan and Eng 1954, 18).

There were only eight classrooms, a small hall, a double classroom as a library and totally inadequate administrative offices (Ministry of Education 1959, 50).

The TTC library had been made by converting two small classrooms into a larger room. It housed 8,000 books, arranged in shelves up to ten feet high so that the librarian had to use a stool. The reading room could seat 20 students at two tables (Thio et al. 1955, 85). The size of the library was a serious problem. In 1953 the library had 8,700 books. The largest sections among the books were Education, Child Study, Psychology and Literature. A small reference section contained dictionaries, encyclopaedias and other books for quick-reference. A collection of books, in great demand by students, has been kept aside in the section marked 'Reserved'. These books may be consulted in the library and kept for overnight loans. The library did not yet cater for all students in the college. This problem had arisen through the dispersal of students from the Cairnhill campus to various schools for their lectures. These students found it difficult to make the long trek to the college, and consequently lacked the reading materials which should supplement their textbooks.

In the few years of its existence, it had grown very rapidly, stretching vertically and spreading horizontally. In the main room, which stored only the books, the shelves almost reached the ceiling. The adjoining room contained the rest of the library stock – reference books, periodicals, pamphlets, textbooks and pictures, leaving little room for readers. The only guide to the books was the author catalogue. According to the librarian, the reclassification and recataloguing of the whole library stock, using the Dewey Decimal Classification (DDC) system should "take a few years (Aroozoo 1954, 14-15). The Legislative Councillors who visited the College in 1954 were convinced of its inadequacy as a training centre (Thio et al. 1955). In December 1955 the College moved to its new premises at Peterson Road and remained there until 1981 (Lun and Chan 1983).

### The First Librarian of the TTC
The first librarian of the TTC Library was Miss Eleanor Aroozoo who was appointed in August 1953. She was previously a student at the College (Certificate Course) and was awarded the Certificate in Education in 1952. She passed the Entrance Examination of the Library Association (LA) with Merit in 1953. Of 730 candidates from various countries of the Commonwealth who sat for this examination 384 passes and only three with Merit (Editor 1954, 17).

The University of Singapore library assisted the training of the College librarian, Miss Aroozoo. She was posted to the College as Librarian in 1955 (Price 1955). However, she was awarded a scholarship to be trained as a librarian at Loughborough College from the years 1955 to 1957. Meanwhile a temporary librarian was appointed in 1956 (Teachers' Training College 1956). Eleanor Aroozoo was the TTC librarian in 1958 (Students' Union 1959, 15) and left for England the following year to do a fellowship with the LA in children librarianship and school libraries. Subsequently, Miss Aroozoo was known as Eleanor Smith after the marriage to an Englishman. In 1960 she became head of the children's section of the National Library.

### Development of TTC Library to Support Teacher Education
The first professional library association in Singapore was inaugurated in 1955 with 36 founder members. It was then known as the Malayan Library Group (MLG) (Chan, Cheo and Yap 1980). At that time, there were only about half-a-dozen qualified librarians in the whole of the Federation and Singapore, only one of whom was a local person (Anuar 1961, 2).

After the first local government took office in 1955, the Ministry of Education (MoE) was established, replacing the former Education Department (McLellan 1957). The TTC building at Peterson Road began to be built in September 1954 and was gradually being occupied in 1956 (Teachers' Training College 1968). In 1956 the ratio became one staff to 40 students. Professor F. Mason, the external examiner to the TTC, suggested that this ratio should be reduced to 1 to 10 as soon as possible. This was in line with the usual ratio obtaining in similar training colleges in the United Kingdom. However, the MoE insisted that the TTC was overstaffed (Owen 1957).

The elections of 1959, in which the People's Action Party (PAP) won, produced an administration enjoying virtually complete self-government (Wilson 1977, 82-83). By 1959, the following courses were conducted by the TTC:
   a) Full-time two-year Certificate Course in English and Chinese;
   b) Part-time three-year Normal Course in English, Chinese and Malay;
   c) Teachers Under Other Schemes (TUOS) Course in Malay (Wong 1974).

From the years 1960 to 1968, the teacher education system had to cope with unprecedented and overwhelming demands. In 1959, 51 per cent of teachers at primary and 38.5 per cent at secondary school level were untrained. By 1960 the school population had increased from 32,977 in 1959 to 349,870 – an increase of 28,893 in all, requiring some 720 new teachers. The total backlog, inclusive of untrained teachers carried over from 1959, was in the region of 5,900 (Wong 1974, 58-59). Ambiavagar (1961, Appendix III, 44) reported that 4,487 or 51 per cent of primary school teachers were untrained and 393 or 30 per cent of secondary school teachers were untrained. Wong (1974, 61-63) observed that teacher education in the 1960s was "unrelated to changing needs, unbalanced and unintegrated, lacking in problem solving-orientation and dominated by examinations". The rote-recall type questions had little discriminative value, making it easy for the trainee teachers to pass the examinations. Therefore it was likely that trainee teachers were not required to use the TTC library due to the training methods emphasizing on rote learning.

In 1964 the library room was converted from classroom space and was not air-conditioned. The room had 36 seats in its English section and 34 seats in its Chinese section. It had a collection of 28,000 volumes in English, Chinese, Malay and Tamil and could accommodate approximately 30,000 volumes, but had no provision for additional shelving. There was a Library Officer, two clerical officers, and one Library Attendant. None of the library's staff had professional training and there were no plans for them to undertake professional training or special training. No annual reports, on other publication and no literature about the library were issued (Keeth 1965, 145-147). The Commission of Inquiry into Education, Singapore, recommended that "a trained librarian should be appointed as soon as possible" (Lim 1964, 101).

In 1964 the College had a total enrolment of 5,319 students and conducted six major Certificate-in-Education courses. Due to the rapid expansion of student enrolment the College began an extension programme to build a hall, gymnasium, a library and lecture theatres to be completed two years later at its Peterson Road campus (Ministry of Education 1965, 16). The Library block was used in May 1967 (Teachers' Training College 1968, 7). Table 2 presents the College library profile in 1964 and 1969.

Table 2: The Teachers' Training College Library (1950-1973), Profile in 1964 and 1969.

| Staff | 1964 | 1969 |
|---|---|---|
| Professional | 1 | 2 |
| Unqualified | 2 | 4 |
| Others | 1 | - |
| Total | 4 | 6 |
| Membership | 5,319 | 6,468 |
| Collection | | |
| Books | 28,000 | 42,468 |
| Periodicals | 180 | 149 |
| Details of teacher trainees | | |
| Trained Under Other Scheme (Malay) | 254 | NA |
| Certificate in Education (English) | 2,707 | NA |
| Certificate in Education (Chinese) | 1,098 | NA |
| Certificate in Education (Malay) | 263 | NA |
| Certificate in Education (Tamil) | 29 | NA |
| Certificate in Education (Technical) | 185 | NA |
| Certificate in Education (H.S.C. English) | 126 | NA |
| Certificate in Education (H.S.C. Chinese) | 51 | NA |
| Certificate in Education (Commercial) | 42 | NA |
| 1 Year Graduate Course (English) | 80 | NA |
| 1 Year Graduate Course (Chinese) | 26 | NA |
| Total for professional courses | 4,861 | NA |
| National Language (Malay) Standard I | 292 | NA |
| National Language (Malay) Standard II | 166 | NA |
| Total student population | 5,319 | NA |
| Full-time lecturers | 115 | NA |
| Part-time lecturers | 67 | NA |
| Unesco and Colombo plan experts | 13 | NA |
| Grand total | 5,514 | NA |

Note: The language mix of the books in the English, Malay, Chinese and Tamil medium were not available, probably due to the shortage of professional staff to organise the TTC Library's book collection.
Sources: Keeth (1965, 145-147); Ministry of Education (1965, 77); Lim (1969, 130).

The situation with regards to teacher training did not improve when in 1968 the Vice-Principal of the TTC, Lau Wai Har stated that the huge enrolment of 5,500 trainees undergoing multiple courses of training in different language media at all levels of training at the TTC was undesirable and unsatisfactory for the following reasons: (a) the College administration has become unwieldy and cumbersome; and (b) the College has become a large and impersonal institution where staff-student relationships are not what they should be. As a result, the quality of the training provided by the College was far from ideal, though the staff have tried their best (Lau 1968, 19).

During November 1970 to November 1971 a library service team of Chinese-medium students assisted the main library in various ways to improve the loan service to Chinese-medium students (Teachers' Training College 1971). The library service team of 140 members under the charge of a staff member assisted the College library on loan services as well as compiling a reference index for Chinese books (Teachers' Training College 1972a). Students were allowed to borrow three books at a time for three weeks. The

library was opened 8.30 am to 6.00 pm from Monday and Friday and from 8.30 am to 5.00 pm on Saturday (Teachers' Training College 1972b).

It was likely that due to the lack of sufficient professional and support staff, the TTC may not be well run and managed and had to depend on students from the Chinese stream to help out with the organization of the Chinese books. The provision of vernacular books in the Malay, Chinese and Tamil medium depended on staff who combine a sufficiently advance knowledge of these languages with a sound knowledge of the basic tenets and techniques of librarianship (Anuar 1960).There were likely to be problems with the catalouging of Malay, Chinese and Tamil books as they were of different scripts (Kee and Chang, 1972). Hence it was likely that the library was not well organised as it did not appear to have an organised structure of a acquisition, cataloguing, reference, circulation and instructional sections.

The University of Malaya was established in 1949 with the merger of the College of Medicine and Raffles College (Han 1966). The School of Education was established in 1950 to serve both the Federation of Malaya and Singapore until in 1963 the University of Malaya in Kuala Lumpur set up its own school (now faculty) of Education (Gwee 1970). The School of Education at the University of Singapore was closed in December 1971 (Wee 1975). Nanyang University founded as a Chinese medium University in October 1954 (Gwee, 1970, 116). It established a Department of Education in 1956. However, the Department stopped taking intake of students with effect from 1966 (Gwee 1968).

As the sole institution for teacher training in Singapore, the TTC had more than 10 types of courses to cater for the requirement of different types of teachers in schools in 1970. They were broadly grouped into the following categories:
   a) Certificate in Education (General, Commerce, Music, Home Economics and Technical).
   b) Certificate in Education (Higher School Certificate (HSC) Holders).
   c) Diploma and Certificate in Education (university graduates).
   d) Special Courses (Adult Education Board teachers, Craft teachers).
   e) In-Service courses for all categories of serving teachers (Chan 1970, 84).

The school system was unable to provide continuous opportunity to everyone to complete 12 years of schooling (Tan 1970). In 1971, 53 per cent or 47,000 pupils passed their Primary School Leaving Examination (PLSE). In 1972, nearly 62 per cent or 53,000 pupils passed the PLSE, which meant that 6,000 more pupils were entitled to enter Secondary I. Therefore the MoE was faced with a shortage of classes and a shortage of teachers (Lee, 1972). In 1972 the MoE was directed to recruit more suitable graduate teachers, particularly for subjects in which the shortage of teachers was acute (*Mirror* 1972, 7).

**From Teachers' Training College to Institute of Education**
In 1970 the Institute of Education Act was passed by Parliament to provide for the conversion of the TTC into the Institute of Education (IE). Although the Act was passed in November 1970, the Institute of Education (IoE) began to function in April 1973 (Lun and Chan 1983). The 22-year-old TTC, the Research Unit of the MoE and the former School of Education of the University of Singapore (now called the National University of Singapore) merged into a single autonomous institution (Institute of Education 1973). There were four schools in the Institute, namely the Schools of Professional Studies, Curriculum Studies, Technical Studies and Continuing Studies (Institute of Education 1975).

## INSTITUTE OF EDUCATION LIBRARY, 1973 – 1992

With a view to raise the quality of teacher training in Singapore the Library's collection had increased by 112 per cent, from 32,277 volumes in 1965 to 68,732 volumes in 1974. When the School of Education of the University of Singapore was closed in December 1971, 5,410 volumes of books and journals were transferred from the University of Singapore Library to the IoE Library. The number of periodical titles received had also increased from 79 in 1965 to 215 in 1974. The library served 5,190 readers and was staffed by three professional librarians (Wee 1975).

The reclassification of the collection from the DDC to the Library of Congress system was initiated in 1974. However, its progress was somewhat hampered by a shortage of qualified staff when one professional staff member resigned. In 1975 the library loaned out 31,210 books, which was an increase of 63 per cent over the previous year's circulation of 19,145 volumes. The Library continued to acquire materials on education in Southeast Asia. Local newspaper cuttings on education continued to be collected and filed in broad subject groups. To assist researchers, the library staff began to index local periodicals on education (Institute of Education 1975).

In 1978, Wang-Chen Hsiu Chin, retired librarian (1955-1978) in the former University of Singapore, accepted the invitation to be the Librarian of the IoE and to reorganise the library (Hochstadt 1983, 24). She was appointed Librarian on 5 November 1979. The Library was reorganised into two sections: The Acquisition/Cataloguing Section, and Loan and Reference Section. On-the-job training was intensified to improve the standard of library service (Institute of Education 1980).

A team from the National Library was requested to make a study of the IoE ibrary in September 1979. The team's terms of reference were "to advise on the structure, organization, physical and manpower requirements need to upgrade the IoE library into an effective resource centre to support teacher education" (Institute of Education 1980). The Report on the library was submitted by the Team in October 1979 that formed the basis for its reorganization. In 1979 the library had about 77,674 volumes in the four official languages of English, Chinese, Malay and Tamil. Students could borrow up to five books for a period of three weeks. The library subscribed to 232 periodicals (Institute of Education 1979).

Major changes were made to the library in 1980. A statement on the acquisition policy was formulated and a system of selection was laid down to guide the upgrading and development of the library collection. The reference counter was reorganised. The library staff at the reference counter gave attention to answering enquiries, assisting readers in the use of the library, updating the reference collection and compiling subject bibliographies on request. Mr Ng Soo Kwee was appointed Assistant Librarian on 1 April 1980 to take charge of the Acquisition/Cataloguing Section. Two library officers were employed on 1 April and 8 September 1980 respectively. However, one library officer, resigned from her post on 1 February 1981 (Institute of Education 1981).

Re-classification of the collection from DDC to the Library of Congress Classification System was still not completed in 1980. A *Library Handbook* was issued to the new intake of students in January 1980. It set out the essential information on the library and contained a section on new Library Loan Rules (Institute of Education 1980).

In 1980 Professor William Taylor, the Director of the University of London Institute of Education, was invited to review the professional aspects of teacher education at the Institute. He produced two reports: *Teacher education in Singapore 1980: The Role of the Institute of Education* (Institute of Education 1981) and *Teacher education in Singapore: A report of the second follow-up visit, 28th March to 2nd. April 1983.* Taylor was of the view that the library holdings of *circa* 60,000 volumes, and some 240 journals, a proportion of these in Chinese and other languages , was "relatively modest for an academic body of the Institute's size, in which a large number of different subjects have to be catered for"(Taylor 1980, 56). Therefore 114 new periodicals were added and by March 1981 the library received a total of 362 periodical titles and the book stock increased to 75,500 volumes (Institute of Education 1981, 28). Although a special grant has been voted to enable a more rapid build-up of stocks, it was staffing, rather than money, which was slowing down the implementation of a vigorous acquisition policy. Of the 16 persons employed in the library, only two – the librarian and one other – were fully qualified. There was no provision for library training in Singapore, and that it was necessary for this to be obtained overseas (Taylor 1980, 56).

Between April 1980 and April 1981, about 10,000 books were reclassified and re-catalogued, and the reference counter reorganised (*Straits Times* 1981, 13). The Library was divided into two sections: the Lending Library on the ground floor and the Reference Library on the first floor (Institute of Education 1980, 8). A non-print Unit was set up in the Library in July 1980. The core collection came from the former Instructional Media Centre of the Institute (Institute of Education 1981). Towards the end of 1981 the IoE moved to the Bukit Timah campus situated next to two organizations directly related to teacher education – the Curriculum Development Institute of Singapore (CDIS) and the Language Project Centre (Ooi 1981, 15). The IoE library at the Bukit Timah campus was opened in January 1982. Other than IoE staff and students, the library also served school principals and teachers who were members of the MoE library. Their membership with the MoE library ceased from 2 January 1982 and they were told to transfer their membership to the IoE library. The library was expanded with the integration of the existing library at the CDIS (Wong 1984). Wang-Chen completed her three-year term with three-year term with the Institute only in December 1982 before deteriorating health forced her not to extend her services (Wong 1983, 24).

In January 1984, Mr Jim Davis, an expatriate from the United Kingdom, took up the post of Chief Librarian at the Institute of Education. He was a professionally qualified graduate librarian and was previously the Head of Information Services at the National Foundation for Education Research in England and Wales (Wong 1984, 4). In the same year, the Institute of Education Act was amended on 13 April empowering the Institute to establish the College of Physical Education (Institute of Education 1985).

In 1984 new Resource Room was created in the library for non-print materials "such as audio-visual aids, records, cassettes and other instructional materials". The library newspaper LOP-LOP was established giving up-to-date information on what was going on in the library and indicated how new developments were intended to serve the information needs of its users. There were a total of 113,616 volumes and the journal titles had increased from 502 to 660 (Institute of Education 1985, 36). From January to March 1987 the library underwent major renovation works and reorganised its layout for more efficient service to its users (Institute of Education 1987). In the same year, the National Stream was implemented whereby 99.3 per cent of Primary One cohort enrolled in the English medium schools and only 0.7 per cent or 260 Chinese children enrolled in Chinese

schools (Ministry of Education 1987). The collection development policy of the library began to focus more on the English books since teacher training was taught in the English medium.

In 1987 plans were made to computerize the library's operations. The Head of The Cataloguing Unit and Library Officer attended course organised by the Singapore Integrated Libraries Automated Service (SILAS) system. They were trained in searching, copy cataloguing and original cataloguing (Institute of Education 1988). A computer-based library system, ATLAS commenced installation in June 1988 to 1989. The library automation system had an Online Public Access Catalogue (OPAC) and acquisitions, cataloguing, circulation and serials modules. In October 1988, both the OPAC and circulation module became operational followed by the monograph acquisitions module a month later. The library also began to subscribe to the ERIC on CD-ROM (Institute of Education 1989). Table 3 shows the quantitative increase of the library's staff and print collection from 1975 to 1989. In 1991 the IoE became the National Institute of Education (NIE) to offer degree courses in education for the first time (National Institute of Education 1992).

Table 3: The Institute of Education Library (1973-1991), 1975, 1983 and 1989

| Staff | 1975 | 1983 | 1989 |
|---|---|---|---|
| Professional | 1 | 3 | 8 |
| Unqualified | 3 | 4 | 7 |
| Others | 7 | 13 | 6 |
| Total | 11 | 20 | 22 |
| Membership | NA | NA | 6,100 |
| Users | 1,000 | 3,000 | NA |
| Collection | | | |
| Books | 64,000 | 80,000 | 130,000 |
| Periodicals | 220 | 370 | 620 |
| Music scores | 100 | NA | NA |
| Non-book | NA | 158 films | Computer |
| | | 669 filmstrips | Software (diskettes), |
| | | 59 microfiche | maps, microforms, |
| | | 10 microfilm | audio and visual |
| | | 40 video tapes | materials and theses |
| Courses | | | |
| Diploma in Education | 363 | 844 | 367 |
| Certificate in Education | 420 | 666 | 667 |
| Certificate in Education | 118 | 161 | 253 |
| Advance Certificate | - | - | 36 |
| MA | 10 | 52 | 76 |
| PhD | 5 | 1 | 2 |
| a. Sub-total | | 1,724 | 1,401 |
| In-service | 916 | - | - |
| b. Sub-total | 4,895 | 2,817 | 3,732 |
| **Total** | **5,811** | **4,541** | **5,133** |

Sources: Lim (1975, 40-41); Sng, Lau and Khoo (1983, 45-46); Institute of Education (1976, 45;) Institute of Education (1984, 16); Institute of Education (1990, 15).

## CONCLUSION

The history and development of the TTC/IoE library can be seen in two phases. During its first phase as the TTC library (1950-1973) its development was hampered by the lack of space, the shortage of professional staff and insufficient books. During the years 1950 to 1955 the library was the size of two classrooms (Ministry of Education 1959). When the TTC was shifted to its Peterson Road campus in 1955, the library room was converted from class room space and up to 1965 it was not air-conditioned (Keeth 1965). The library building was completed in May 1967 (Teachers' Training College 1968, 7).

Throughout the period 1950 to 1972 the TTC library could not be developed fully as an academic library due to the lack of sufficient professional staff and expertise in the acquisition and cataloguing of books in the Chinese, Malay and Tamil medium. The TTC library was expected to be a multilingual academic library since the TTC provided teacher training in the English, Chinese, Malay and Tamil streams.

The second phase occurred when the TTC became the IoE in 1973. The years 1973 to 1980 was a period of trying to cope with the significant increase of book stock and serials, the reclassification of the collection from DDC to the Library of Congress (LC) system and lack of professional staff to organise and manage the library. The third phase covering the years 1980 until 1991 was a period of professional development by moving from the Peterson Campus into the Bukit Timah Campus Library, the former library of the University/NUS library. It was also the beginning of employment of a professional academic librarian, initiating an basic organizational structure required of an academic library and setting up of a non-print unit. A partial introduction of an automated library system only began in 1988. It is likely that after the IoE became the National Institute of Education 1991, the main OPAC, circulation, cataloguing and serials modules went on stream. Hence throughout the history of IoE library it encountered ongoing problems of recruiting and retaining professional staff, migration of the DDC to LC system, insufficient book collection and converting its manual library system into an automated library system.

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