

**TECHNICAL EDUCATION IN MALAYA: THE DEVELOPMENT OF TECHNICAL
SCHOOL KUALA LUMPUR, 1925 – 1940**

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Abstract

Technical education is extensively important for government services, infrastructure, urbanization and industrialization. Every countries feel the necessity of technical education to attain prosperity and to achieve development. In Malaya, many vernacular, English and vocational schools were established under the rule of the British during the last period of the 19th century and the beginning of the 20th century. Shortly after, the necessity of technical education was observed. As a result, the Treacher Technical School was established in Kuala Lumpur, in 1904. During the first decade of the 20th century, the classes were moved to different buildings; and during the first and second decades of the 20th century, students were trained for some government departments such as the Public Works Department, the Survey Office, the Railway Department and the Forest Department. The school faced several problems, and was closed and re-opened for a few times. In October, 1925, a departmental technical school which can be referred as the Technical School, Kuala Lumpur (TSKL) was opened to train the apprentices for the Railway, Survey and Public Works Departments. In this study, the TSKL which is a successor of the Treacher Technical School and an ancestor of Universiti Teknologi Malaysia (UTM) will be examined, discussed and analyzed from 1925 until 1940 within the context of administration of the school and structure of the curriculum and co-curriculum, construction for the nation and country.

Keywords: Technical School Kuala Lumpur, Treacher Technical School, Universiti Teknologi Malaysia, Technical Education, Malaya

Introduction

The entrance of Islam to the Malay archipelago was a milestone for Malays. The religion of Islam was carried to Malaya by Islamic missionaries among merchants. The conversion of Malays into Islam opened a new page for the history of Malaya.¹ Before the entrance of formal and secular education, Malaya had experienced traditional and religion-based education for a long time. In a sense, the Malay-Muslim people had Islamic education both domestically and from several formations after the emergence of the religion of Islam in Malaya. The Muslim community learnt the divine commands which were dedicated in the Islamic holy book, Qur'an, and the practises of the religion. These theoretical and practical works were also a type of education in the early stages.

Among the religious educational establishments, Qur'anic classes were the first places where Islamic education was implemented. Children took the education of Qur'an in the direction of its sentences and instructions at the early ages.² Those Qur'anic classes were generally located in the houses of religious men or at the mosques and *suraus* (small mosques – praying rooms).³ *Pondok* education, which was superior to Qur'anic classes in terms of curriculum was also widespread in Malaya as an aspect of religious education. A *pondok* can be defined as a combination of cottages or houses, and the house of the trainer or the mosque.⁴ *Ulamas* (the people who have wide knowledge about the religion of Islam) and *hajjis* (the people who have fulfilled the worship of *haji* in Makkah) were the trainers in *pondok* education.⁵ In these types of education, several skills such as Malay medicine, wood-carving, kris-making etc. were also gained by the pupils.⁶ Besides the Qur'anic classes and *pondoks*, *madrasahs* which were superior to these two were also offered to the Muslim community. Without any scientific curricula, the Qur'anic classes and *pondoks* could not be efficient for the actual life, as the modern world had already started to implement positivist educational approaches. Nevertheless, several scientific subjects were able together with the religious subjects at some *madrasahs*. *Madrasah al-Iqbal al-Islamiyah* was founded in Singapore, in the year 1907 as the first modern religious school in Malaya. In the process, other *madrasahs* were also founded in Kedah, Perlis, Perak and the Straits Settlements which some of them provided even high education.⁷ However, except some *madrasahs*, lack of scientific education was appreciable in religion-based educational formations. Before the entrance of technical education, formal and secular education had already appeared in Malaya as from the 19th century. A plenty of governmental or private enterprise English, vernacular and some vocational schools had already been opened.

Entrance of Formal and Secular Education in Malaya

Within the process of formal and secular education, irresolute, hesitant and somewhat separative policies were implemented by the British rule. Mixed feelings and approaches were quite noticeable about the educational policies of the communities in Malaya. Among these, educational approaches of the British rule for the Malay were especially remarkable. Nevertheless, the communities started to benefit secular and modern education, and this was a step for the formation of educated people who would be conscious of the necessities of time.

English education was firstly introduced to Malaya in the Straits Settlements. In the early stages of the 19th century, 'free schools' was a type of educational foundation which provided education to children for all the races.⁸ In the year 1816, Penang Free School was founded by Reverend H. S. Hutchings, and it was the first free school in Malaya. The medium of instruction was English at the school.⁹ In the later years, other free schools were founded in Malacca, Penang, Singapore which some of them were missionary schools. However, some of these schools were undesirable by the viewpoint of some Malay families. They refrained from the possibility that the Malay children could lose their moral values, as the missionary schools prioritized Christian values.¹⁰ Their non-Islamic situations were a frightening aspect for Malay families. Most of the founders of those schools were somewhat representatives of the progressive idea which prioritized the supremacy and development of the Western worldview.¹¹ Nevertheless, some of these schools went on providing education. In the process, implementation of English language as the medium of instruction became an important issue. Frank Swettenham, Resident of Perak in that period of time, had the opinion that English education could be unfavorable for the Malay as keeping the Malay community for their traditional works and lower level jobs. In his opinion, providing a medium of

instruction in Malay would be more profitable for the British.¹² The possibility of forming a conscious and an awaked community was an element of fear. In spite of all the discussions, polemics and divergencies, English schools had been established before and went on being established. Tanjung Petri School which was established in the year 1864, in Johor was the first English school in Malaya except the free schools.¹³ Many of others followed the school in the later years.

Vernacular education became an important aspect of the educational life in Malaya under the British rule. As from the year 1875, a vast number of Malay vernacular schools were established in Malaya, especially in the Federated Malay States (FMS).¹⁴ Skinner, Inspector of Schools for the Strait Settlements, had the aim to form a modern and secular education. However, the importance of the Qur'anic classes and the sensitivity of the Malay community for the religious and traditional elements were quite clear. Therefore, a combination of Malay instruction and Qur'anic education appeared for Malay vernacular schools. Malay instruction was prioritized, but besides this, Qur'anic subjects were also offered.¹⁵ The first governmental Malay school in the FMS was in Klang, which was established by the first resident of the state of Selangor, J. G. Davidson, in the year 1875.¹⁶ Apart from all the developments for Malay vernacular education, the main goal of the colonial power was to keep the general part of the Malay community as peasants, farmers, fishermen and craftsmen. It would provide to keep them in loyalty. Nonetheless, as a fact, educated segment of the Malay community would be a spark in the later years. By any means, a considerable amount of Malay people met with positive sciences and formal education with pros and cons.

Chinese and Tamil vernacular schools were also introduced besides Malay vernacular schools. In the previous years, Chinese schools were tradition-based, and they were based on the own efforts of the Chinese community. However, a governmental Chinese school was established in the state of Selangor, in the year 1885.¹⁷ In, *Annual Report on Education in the Federated Malay States for the Year 1920*, it was indicated that there were also 95 aided and 10 governmental Tamil schools in the FMS.¹⁸ A separation policy which was implemented by the British rule for the races in Malaya is noticeable at this point. While it seemed as a liberal policy to provide education one by one for the races, it is also an undeniable fact that it caused separation between the races, and prevented the unity.

Within the process, vocational education was also offered. Economic circumstances was the main reason to prefer vocational education instead of cultural subjects. Many parents prioritized vocational education for their children in the practise of life because of the economic realities.¹⁹ Actually, most of the Malay schools had the characteristic of vocational. Many crafts and agricultural practises had already been offered at Malay schools.²⁰ Some vocational schools were also seperately established. As an example, in the year 1902, Malayan Art School was established in Perak, and offered Malay students wood-carving, silversmith's work, pottery etc.²¹

Technical Education

Background of Technical Education

An English education report in 1899 mentioned the need for technical, vocational and commercial education.²² The 1902 Education Act was remarkable at indicating and encouraging both secondary and technical education and teacher training education.²³ Before larger arrangements, some attempts took place limitedly for technical educational area in Malaya. According the official reports, there were students who were given grants of

industrial scholarships. The students were sent to Madras for qualification as assistant surgeons. Twelve industrial scholarships in Singapore and three industrial scholarships in Penang for four years were provided. The holders of these scholarship programmes were generally Eurasian boys. Moreover, there was an evening class for the scholars which offered drawing, geometry and machine construction twice a week in Singapore. However, uneasiness was observed among the scholars because of the hard requirement which forced them to have a compulsory duty for 15 years after their four years-training. After handling all the issues, establishment of a secondary, commercial and technical school or separated schools which would offer training in engineering, surveying, medicine, assaying etc. were recommended. The necessity for the separation of vocational and technical schools from the other schools was mentioned.²⁴ However, the establishment of such a well-arranged and developed school could not be possible for a long time because of the lack of funds and financial resources. Therefore, some arrangements were made under the government departments. The departments provided technical education to their own staff.²⁵

The Treacher Technical School

The Treacher Technical School can be evaluated as the first serious and organised formation for technical education in Malaya. The Treacher Technical School was established around the year 1904. Some classes in the Town Hall Buildings, Kuala Lumpur were benefited for training.²⁶ The name of the school was in the honor of Sir William Treacher who was the Resident General of the FMS during the years 1902-1904. The school firstly provided part-time education, and it was administratively under the Public Works Department (PWD) of the FMS. Technical assistants of the PWD and the Railway Department were the trainees at the school in the early stages.²⁷ The school was moved to an old Malay school building in Batu Lane.²⁸ In the process, the school started to accept new students for other government departments such as the Survey Department. In the year 1909, the school again transferred to another place, the old museum building in Bukit Nenas. As from this time, the school started to be called as 'The Technical School in Bukit Nenas' in some sources. The Technical School in Bukit Nenas put an end to the classes in the year 1915, but a survey class which would continue until the year 1916 was kept on during the year.²⁹ The inefficient economic circumstances were the main reason for the closure of the classes on that time, but the school was reopened in the year 1918.³⁰ Despite the relative development of the Treacher Technical School, a well-organized technical education, and high demands for the arrangement of technical professions could not be considered until the year 1925.³¹ Apart from all the facts and problems during the process of the Treacher Technical School, the school was a remarkable step to form technically-skilled staff for government departments in the FMS.

The Technical School, Kuala Lumpur (TSKL)

The establishment of the TSKL was another important stage which deserves to be highlighted to have institutionalized technical education in Malaya. The TSKL refers to a special period of implementing technical education, and the government departmental form at the beginning improved in the later years. The school had the characteristic of a successor of the Treacher Technical School and an ancestor of Technical College, Kuala Lumpur and Universiti Teknologi Malaysia (UTM), and was a significant standing before technical education was handled in the education department level. It was a model for the consciousness of technical education in Malaya. Many apprentices from different government departments of the FMS; and later, from all Malaya, were accepted as students to the TSKL, and they gained technical skills by the agency of scientific and technical education.

Establishment, Structure and Administration of the TSKL

Problems at the point of finding masters for technical and industrial areas were faced in Malaya, and the issue was handled by the Director of Education for the FMS and the Education Department in the year 1924. Later, the Windstedt Committee emphasized the necessity of a medium level technical education including evening classes with English medium of instruction to train clerks in the year 1925.³²

After some discussions and evaluations, the opening of the TSKL as a departmental technical school took place in October 1925. Training the apprentices who were appointed under the Schemes of Technical Subordinates was the function of the school. In the establishment phase, the TSKL was under the administration of the Public Works Department.³³ In those years, the local people were not considered proper candidates for higher level technical positions. They were considered as potential subordinates in technical area, and technical education was arranged in the direction of this idea.

The first place of the TSKL was in Brickfields Road. The administrator was an executive engineer of the Public Works Department, Mr. F. G. Coales. He had three local assistants. A European surveyor and several part-time instructors were commissioned by the Survey Department to managed the classes. The Survey Department, firstly, benefited from the TSKL within the context of accommodation. In the first stage, the Posts and Telegraphs Department did not benefit from the school, because the department had its own arrangements for the training of apprentices.³⁴ Other government departments also started to send apprentices to the TSKL. As an example, Engineering Department of FMS Railways invited candidates, who would have the posts of technical apprentices, by the agency of the press in the year 1926. According to the invitation, a four-years education would be provided at the TSKL. The requirement for the ages of the applicants was not to be under 16 and not to be over 21 years old. Having passed the Senior or Junior Oxford or Cambridge Local Examination or its equivalent was another requirement.³⁵ In the year 1930, the TSKL was moved to the old Victoria Institution buildings in High Street.³⁶ Also, all the departmental monotechnic schools absorbed into it.³⁷ As from the beginning of 1930s, important administrative reforms also started to take place. Firstly, the Education Department took over the TSKL in the year of 1931.³⁸ Later, in the year 1935, the school was administratively situated under the Selangor Education Department.³⁹ All the apprentices and candidates from the Unfederated Malay States (UMS) and the Straits Settlements (SS) besides the FMS started to become students of the TSKL. Among the government departments of the states except the FMS, the Public Works Department, Straits Settlements was the first department which sent some students to the TSKL.⁴⁰

To have an overlook to the government departments which benefited from the TSKL, several records are available in the official reports. For the year 1932, there were 141 students in May. For that year, this amount of enrollment was indicated as the highest one the TSKL had ever experienced. Among these, 51 students were from the Public Works and Drainage and Irrigation Departments, 26 from the Electrical Department, 15 from the Railway Department, 22 were from the Posts and Telegraphs Department and 26 from the Survey Department. Except these students, there was also one special student who was fee-paying. Among the mentioned total 141 students, there were 35 Malays.⁴¹

In the year 1940, some discussions about the necessity of a structural change for the TSKL appeared among the authorities and in the press. The necessity to convert the TSKL into a college level started to become noticeable.⁴²

As a brief evaluation for the TSKL, the first noticeable aspect was the initial departmental character. The TSKL was a meeting point for several government departments to provide their apprentices-employees technical education with a scientific, technical and modern way. Most of those apprentices and candidates became enthusiastic elements of the TSKL under the identity of ‘studentship’, and under the governmental department-based administration. After the administrative changes, the school went under education departments, and it started to serve with more developed curriculum and syllabi. Furthermore, within the entrance of the policy which started to accept students from all Malaya, the school became an element of contact and harmony between the Malay states.

Curriculum and Co-curriculum at the TSKL

Educational-technical educational reports for some years and various newsitems allow for examinations about the curriculum, syllabi and co-curricular activities at the TSKL. At the beginning, a two years-course was offered for the Public Works Department and Way and Works (Railway) Department.

Table 1: Courses Offered for the Public Works Department and Way and Works (Railway) Department

First Year’s Courses	Second Year’s Courses
Arithmetic and Algebra	Building Construction and Materials
Geometry and Geometrical Drawing	Earthwork and Road Construction
Mechanics	Road Maintenance
Graphic Statics	Surveying
Elementary Surveying	Specifications
Levelling and Drawing Office Practice	Quantities and Estimating
	Drawing Office Practice
	Mechanics
	Trigonometry and Algebra
	Architecture

Source: *Report on the Technical School, Kuala Lumpur*, Kuala Lumpur: The Federated Malay States Government Press, 1939, p. 29.

As it can be seen, basic scientific and technical knowledge which was necessary for subordination was tried to be offered for the students at the TSKL. Within the process, the government departments which benefited from the school expanded. In accordance with the necessities and technical developments, the offered subjects were enriched, and gained a variety between the departments. The TSKL also needed laboratories, which would support the curriculum, because of the nature of technical education and practises. *Annual Report on Education in the Federated Malay States for the Year 1931* expresses the laboratorial circumstances at the TSKL besides commenting on vernacular and vocational education in Malaya. According to the report, an Electrical Laboratory was equipped by the Electrical Department. The department also contributed to some equipments for Physics and Electricity and Magnetism Laboratories. Moreover, equipments for a Telegraph and Telephone Laboratory and some electricity and magnetism apparatus were supplied from the Posts and Telegraphs Department. The Signal and Telegraph Branch of the Railway Department loaned a signal frame, two tablets and two telegraph instruments.⁴³

Report on the Technical School, Kuala Lumpur is a very rich and bountiful source which allows large information about the subjects which were instructed at different departments of the school in the year 1939.

Table 2: Courses Offered in Electrical Engineering at the TSKL

First Year's Courses	Second Year's Courses	Third Year's Courses
English	Applied Mechanics,	Hydraulics
Physics	Mechanical Laboratory	Mathematics
Physics Laboratory	Mathematics	Mechanical
Applied Mechanics	Strength of Materials	Drawing
Mathematics	Testing of Materials in the Mechanics Laboratory	Electrical Technology,
Drawing	Estimating	Electrical Laboratories
Surveying	Electrical Technology,	Thermodynamics
Chemistry	Electrical Laboratories,	Estimating and Strength of Materials
Technical Electricity and Magnetism	Mechanical Drawing	Elementary Design
Electricity Laboratory	Electrical Engineering Practice	
	Thermodynamics	

Source: *Report on the Technical School, Kuala Lumpur*, Kuala Lumpur: The Federated Malay States Government Press, 1939, pp. 50-55.

As it is seen on the Table 2, the students were trained both theoretically and practically in line with gaining skills at electrical engineering. The 'Sandwich System', which was based on taking notes in the field work and correcting them, was also implemented.⁴⁴ According to the same report, the first year course of Telecommunication Engineering had the same syllabi with the first year course of Electrical Engineering.

Table 3: The Second and Third Year Courses Offered in Telecommunication Engineering at the TSKL

Second Year's Courses	Third Year's Courses
Applied Mechanics	Mathematics
Mechanical Laboratory	Mechanical Drawing
Mathematics	Estimating
Strength of Materials	Telegraphy
Testing of Materials in the Mechanical Laboratory	Telephony
Estimating	Radio Communication
Electrical Technology	Telecommunication Laboratories
Electrical Laboratories	Electrical Technology
Mechanical Drawing	Electrical Laboratories

Telegraphy-Telephony	Transmission and Lines
Telephony	Carrier Telephony
Radio Communication	Telegraphy and Railway Signalling Systems
Telecommunication Laboratories	

Source: *Report on the Technical School, Kuala Lumpur*, Kuala Lumpur: The Federated Malay States Government Press, 1939, pp. 55-60.

The second and third year courses in Telecommunication Engineering are shown on the Table 3. The ‘Sandwich System’ was in use in Telecommunication Engineering.⁴⁵

Table 4: Courses Offered in Mechanical Engineering at the TSKL

First Year’s Courses	Second Year’s Courses	Third Year’s Courses
Applied Mechanics	Physics	Dynamics and Elementary Theory of Machines
Mathematics	Physics Laboratory	Mathematics
	Applied Mechanics	Thermodynamics
	Mechanics Laboratory	Machine Drawing
	Mathematics	Estimating and Strength of Materials
	Strength of Materials	Elementary Design
	Testing Materials in the Mechanics Laboratory	
	Estimating	
	Mechanical Drawing	
	Thermodynamics	

Source: *Report on the Technical School, Kuala Lumpur*, Kuala Lumpur: The Federated Malay States Government Press, 1939, pp. 60-61.

The first year course of Mechanical Engineering was in the status of part-time for the year which *Report on the Technical School, Kuala Lumpur* was written.⁴⁶ In *Report on the Technical School, Kuala Lumpur*; the subjects, the titles of the subjects, the subtitles of the titles of the subjects, course hours for each subjects and theoretical, practical and laboratorial works of the subjects were indicated very detailed.⁴⁷ It is easily noticeable that the departments commonly had some basic scientific subjects which should be learnt by all the prospective technical staff. They also had distinctive subjects up to their own nature and implementations. The laboratorial and practical works which were vital for technics were not neglected.

The students of the TSKL also experienced co-curricular activities. Cricket and hockey were forefront at this point. Some newsitems about sports matches of the teams of the TSKL are accessible. The triumph of the TSKL against Selangor Club by the score 4-2 at hockey branch,⁴⁸ the defeat of the TSKL against Victoria Institution by the score 84-107 at cricket branch⁴⁹ were two different examples about the sports activities. The TSKL also had a rugby team. Moreover, in a year of the school, three players of the rugby team were selected for the Selangor Asiatic Side.⁵⁰ The TSKL supported the physical and mental healths of the

students by these types of co-curricular activities. The activities were useful for also collaborative consciousness.

Contribution of the TSKL

The TSKL was beneficial, and is worth to be reminded as a technical educational establishment as the people who had an education at this school generally became technical staff in government departments and contributed for the technical improvement and infrastructure of Malaya. Appointments of some students even took a place in the press. As an example, the appointment of Mr. G. S. Arulampalam took a place in a newsitem.⁵¹ The school had a success at gathering various amount of students most of whom were apprentices in government departments, and some were fee-paying (private) or fee-paying and supported by the government at the same time. It was also beneficial for human resources for the British rule. However, it played a big role for local students from different races in Malaya to provide them technical education and to make them realised of the significance of technical knowledge for a country. The TSKL also contributed for the later and higher level technical education in Malaya. The next technical educational establishments started to provide higher education.

Conclusion

After all, the effectiveness of the Technical School, Kuala Lumpur was undeniable, as it provided the necessary technical education, a vital type of education for the improvement of all countries, and as it was largely benefited by the local people. It contributed to form technically educated generations. It was a very important stage between the Teacher Technical School and the later higher technical educational establishments. Under favour of the TSKL, the later generations were formed more and more conscious of the necessity of technics in Malaya. The contribution of the school is unforgettable at this point. It prepared a suitable atmosphere for desires to higher educational levels, and again, under favour it, discussions and plannings about the college level sparked in the year 1940. In spite of the problems and challenges faced between the years 1925-1940, the TSKL was a remarkable figure compared to other educational establishments. The TSKL included all the main ethnical groups in Malaya; however, the school especially proved that Malays, the key element of Malaya, could be successful and skilled at technical knowledge as a Muslim community. The TSKL showed that technical knowledge, technical and scientific minds and the religion of Islam could be in harmony with each other. That was a proud and important breakthrough for Malays. The curriculum at the school was scientific, technical and distinctive, and this point enlarged the significance of the TSKL.

Note

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