

Technical education

Origins of technical education 1881–1902

During the 1860s and 1870s, formal education in Queensland beyond primary level was conducted almost exclusively in grammar schools. These schools were expensive and thus available only to the wealthy. There were some individuals, however, who could not afford a grammar school education but were interested in further education which would provide a form of upward social mobility. The middle class liberals of the time encouraged such attitudes to education. In 1872 Charles Lilley, for example, urged that the North Brisbane School of Arts and Sciences should be used as a centre for teaching young mechanics and tradesmen the elements of the useful arts and sciences. Lilley believed that such an education would lead to greater industrial efficiency and productivity and would also further the careers of these young men. Technical classes were established in that year but failed to continue beyond 1872.

It was not until 1881 when J.A. Clarke and C. Waagepetersen took regular classes in mechanical art and freehand drawing that technical education proved successful. The students included some schoolboys and also men studying in such fields as architecture, carpentry, ship-building, surveying, photography and engineering. In 1882 the Brisbane Technical College began formally, as a result of efforts by the President of the North Brisbane School of Arts, the Hon. J. Douglas, formerly Premier of Queensland.

A sub-committee of the North Brisbane School of Arts was formed to control the College and an annual grant of £600 was obtained from Parliament. In 1882 the college had nine teachers who gave instruction in 11 subjects to 80 students. There was no systematic approach to courses of instruction.

By 1889 the College's activities were made distinct from those of the School of Arts, and the work of instruction was placed under D.R. McConnel who systematised instruction and remained in control for 20 years. In 1892 a pound for pound subsidy was instituted, which meant that such classes as typewriting, shorthand and bookkeeping, which attracted large numbers of students and required little apparatus, were most profitable. Science classes attracted small numbers, were unremunerative, and often could be maintained only by the

enthusiasm of the instructors. The *Brisbane Technical College Incorporation Act of 1898* set up a council consisting of six Government representatives, three elected by the subscribers and three elected by certified students. This council controlled the College for the next 10 years.



Photograph: Queen Victoria Diamond Jubilee Memorial Technical College, Ipswich, opened in 1901.

Outside Brisbane, the technical colleges were limited neither by statute nor by regulations. Classes of technical instruction were held in 15 centres, usually in conjunction with the School of Arts, and, as reports by district inspectors showed in 1901, the funds supplied were used in a variety of ways unconnected with technical education. One instance was where a violin teacher taught private pupils listed at a technical college and split the Government subsidy with the college. As students selected their own subjects, often with no clear objective in view, studies were often not co-ordinated towards preparation for a vocation. The first technical college which prepared students for a specific vocation was the Charters Towers School of Mines which opened its doors to 100 students in 1901, under the supervision of the Department of Mines.

Towards the end of the nineteenth century, the Government wished to rationalise technical education in Queensland since it was considered that one of the reasons for the industrial and trade successes of Germany at Great Britain's expense had been efficient German technical education. The desire to integrate a more efficient technical education into the general education system, in the name of national efficiency and self-survival, led to a sequence of reforms.

Development of technical education 1902–1964

In 1902 a Board of Technical Education was created to advise the Minister.

In 1905, as a result of disagreements between the Council of the Brisbane Technical Education and the Department, the Board was abolished and a separate branch of the Department of Public Instruction was created to exercise greater control over technical education.

R.M. Riddell, as Inspector of Technical Colleges, was placed in charge of this branch. The Inspector's duties were to foster and develop the system of technical education, to inspect the technical colleges, and to supervise the grants. After 1905 the various colleges were placed on a more uniform footing with regard to the syllabus, examinations and endowments. As the reports of the Inspector drew attention the wastefulness and overlapping of the three Brisbane technical colleges (North Brisbane, South Brisbane and West End), the *Technical Instruction Act of 1908* was passed, amalgamating them into the Central Technical College and providing for direct State control. After the passing of the *Technical Instruction Amendment Act of 1918*, the control of the country colleges was gradually transferred to the Department of Public Instruction.

In 1914 the Brisbane Central Technical College occupied new buildings adjacent to the University of Queensland. The Diploma of Engineering work of the College was then co-ordinated with that of the Faculty of Engineering of the University.

A few years later, at the conclusion of World War 1, technical colleges provided rehabilitation trade courses for ex-servicemen. Shortly after this, in 1924, a major step in the public recognition of technical college qualifications was made when the holders of prescribed diplomas were given the right to 'letters' after their names.

When the Depression of the 1930s came, it was hoped that unemployment would be alleviated if the jobless were taught trade skills, the unskilled workers being the first to be affected by the Depression. Furthermore, the Government saw a political danger in having so many young men idle. Unemployed youth were consequently encouraged to attend free training in various technical skills at the technical colleges.

After the outbreak of war in 1939, the Technical Education Branch trained thousands of skilled workers for munitions works, the aircraft factories and the technical branches of the services. At the end of the war, Commonwealth Reconstruction Training Courses were provided for ex-servicemen in the technical colleges. The post-war period was a difficult one for the Technical Education Branch. Although the equipment and machines of the colleges had been in use for long periods during the war, it had not been possible to replace them as they depreciated. As a consequence, the branch was faced with the task of replacing heavy equipment in the post-war period when salaries and other running costs were rising.

Technical education 1964–1982

The remarkable post-war growth of secondary industry created a growing demand for trained personnel at both the technician (tradesman) and technologist (professional) levels. To meet this demand, technical education was reorganised in the 1960s, many of the existing colleges being raised to tertiary level and others being created to provide additional technical education. Acceptance by the Commonwealth Government of the 1964 Martin Report, which recommended that increased funds be made available to the States to help establish autonomous tertiary-level institutes of advanced education, provided the financial support for this reorganisation. The *Education Act of 1964* provided the necessary legislative basis for the reorganisation. It created a Technical Education Advisory Council, with members from industry, commerce, education and Government departments, which was responsible for advising the Minister for Education on the future development of technical education.

Consequently, in the late 1960s and 1970s, technical education divided into two streams. Tertiary-level institutes of technology were established at Brisbane in 1965, and Toowoomba and Rockhampton in 1967. These were granted autonomy in 1971. Furthermore, to help fulfil the demand for technical or certificate-level studies, a perimeter of specialist technical colleges was established around Brisbane in the early 1970s, each specialising in one or more of the sub-tertiary functions of the Central Technical College, which was phased out. These colleges were situated at Yeronga, Eagle Farm, South Brisbane, Ithaca, Kangaroo Point, Coorparoo and Seven Hills. At the same

time many of the country colleges, e.g. Mt Isa, Cairns and Bundaberg, were moved into new accommodation, separate from the high schools.

The recommendations of the Martin Report and the *Education Act of 1964* also led to a reorganisation of post-secondary agricultural education. The Department of Education recognised that the elevation of the Queensland Agricultural College at Lawes to tertiary status would leave the State without institutions for agricultural education at sub-tertiary or technician level. The *Rural Training Schools Act of 1965* filled this gap by providing for post-secondary schools serving particular industries. The first of these rural training schools was opened at Longreach in 1967 to serve the wool industry. Schools were later opened at Emerald in 1971 to serve the beef industry, Claredale in the Burdekin region in 1976 to serve the tropical and sub-tropical coast, and Dalby in 1979 to serve the grain industry.

A further period of rationalisation of post-secondary education began in 1974, with the release of the draft report of the Australian Commission on Technical and Further Education. This report recognised that because of rapid school change and the creation of new industries, society's needs and expectations for technical education had changed in the previous decade. It recommended that community resources for adult and technical education be rationalised and expanded to meet these new needs and expectations. In consequence, further funds were made available to technical and further education in 1975-76, and in January 1977 the integration of the two areas was completed and TAFE formally came into existence.

In the past three years new TAFE colleges have been opened and existing facilities improved. Courses offered have been greatly expanded, particularly in the area of pre-vocational courses and courses designed to foster greater community involvement in technical education. In fact, the basis of the TAFE conception has been the identification of local colleges with the needs of the local community.

The education of apprentices

The education of apprentices has always been an important feature of technical education. Even since the creation of technical classes, large numbers of apprentices have attended, but prior to the more direct control of apprenticeship by the State, students exercised their own discretion in

selecting subjects of study and had little guidance from those connected with their respective trades. During the early part of the twentieth century organised craft unions were opposed to the employment of unskilled and child labour. They supported the policy of a compulsory, systematic technical education for apprentices as a means of restricting the number of apprentices to the journeyman, and of excluding unskilled labour. The decisions of wages boards and arbitration courts also encouraged this policy.

The establishment of trade advisory committees in 1915 for carpentry and joinery, electrical work, fitting and machining, and plumbing marked a new step towards the co-ordination of industry and technical training. In the following year, electrical engineering apprentices throughout the State were required to attend classes if resident in certain districts. In 1920 a Central Apprenticeship Committee was established to supervise training and to conduct examinations for those desirous of entering a trade. After the proclamation of the *New Apprenticeship Act in 1924*, the control of the scheme and the registration of apprentices passed to the Public Works Department and did not return to the Department of Public Instruction until 1932.

Since then, changes in legislation dealing with apprentices have stabilised and developed the apprenticeship scheme, and eased considerably the burden of night classes for many trade courses. In this respect, an important development in the 1970s was the advent of block release training in 1971, which has enabled apprentices to attend technical colleges for longer blocks of time. The introduction of pre-vocational courses in the 1970s has also meant an improvement in the standard of apprenticeship training.

Technical education by correspondence

The Technical Education Branch was one of the first bodies in Australia to provide tuition by correspondence. This is understandable when the geography of the State is considered. In 1911 correspondence lessons were prepared for students of commercial subjects. By 1926 electrical apprentices in remote country areas were undertaking their courses by correspondence. Originally, the Central Technical College was responsible for correspondence students. However, in 1945, a separate Technical Correspondence School was established to serve the needs of students in areas not directly served by colleges. To meet the changed conditions of the 1970s, the number and

variety of courses offered by the Correspondence Schools have been greatly increased in the past decade.

In the past, technical education has made a worthwhile contribution to the education of the State. It has proved relatively responsive to social and economic demands, has supplied some of the leaders in the fields of mining, architecture, industry and commerce, and it has provided an alternative secondary and tertiary education for many who, otherwise, would have failed to receive such an education.