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TECHNICAL EDUCATION IN NEW ZEALAND

A SURVEY OF DEVELOPMENTS AND TRENDS  
FROM 1940 TO 1966

A Thesis

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by

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## P R E F A C E

We live in a time of change. All around us are a variety of goods; transistor radios, television sets, pre-packaged frozen foods, plastic goods, synthetic materials, electrical appliances and a host of others, which were unheard of twenty-five years ago. In fact, we in New Zealand are experiencing the effects of a world wide technological revolution, which is having far reaching effects on the way of life of people throughout the world.

To the fore in this revolution are the scientists and technologists who generate new ideas and learning, but equally important have become the group of skilled people who apply these ideas in practice. This group, in New Zealand, receives its training mainly through our system of technical education, which has undergone vast changes as technology has advanced and needs have changed.

The purpose of this study is to show the developments that have taken place in New Zealand technical education over the last twenty-five years, to relate these to economic and social changes that have occurred, and to survey the present scene in the light of changing conditions. There was a time when

technical education meant, for many New Zealanders, a type of education for non-academic pupils preparing to enter a trade, and, for a great number of people, this impression still remains. An examination of the scope of the training given in the technical institutes today, shows how far from the truth this impression is.

This study has entailed extensive library research and the interviewing of a number of people concerned with technical education. The writer is grateful to the many people who have contributed ideas, advice and information, and is especially indebted to Mr. R.A. Keir and Mr. C.L. Maloy of the Auckland Technical Institute and Mr. P. Dickinson of the Department of Education, Auckland, for their most valuable assistance.

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PART I

IN THE BEGINNING

## CHAPTER I

### TECHNICAL EDUCATION BEFORE 1940

Any system of education is devised by the members of the community for the particular needs of that community at that time, and it must change with the times as the needs of the community change.

So it has been with technical education in New Zealand. Changes in the economic structure brought about in the last thirty years through changing world conditions, and the tremendous technological advances that have taken place this century have brought changes to the New Zealand way of life and these have been accompanied by changes in the system of education. In order to appreciate fully the developments that have taken place in technical education since 1940, it is necessary to examine the beginnings of technical education in this country, the purpose for which it was developed and its development through the early years of this century.

Secondary education arose in the first instance to meet the demand of a small group of middle and upper class emigrants and the education given was modelled on the type of education, with emphasis on formal subjects, that was current in Britain for people of this class.

At first it was the exclusive domain of the classes who were wealthy or who had at least moderate means. There was little demand for it from other groups in a community whose livelihood was based in the main on agricultural production.

Bowen, in stating the intention of the 1877 Education Act, said:

It is not intended to encourage children whose vocation is that of honest labour to waste in the higher schools time which might be better devoted to learning a trade, when they have not got the special talent by which that higher education might be made immediately useful. <sup>1</sup>

Later there was felt to be a need for an alternative type of post-primary education and attempts were made to introduce into existing secondary schools a more practical type of education for children less academically minded. Mr. George Hogben, who in 1899 became Inspector General of schools, had visions of district high schools as community centred rural high schools "with a realistic curriculum intimately related to country needs and conditions." <sup>2</sup> Under the 'Manual and Technical Instruction Act 1900', secondary schools

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1. New Zealand Parliamentary Debates, Vol. 24. p.37.
  2. A.E. Campbell, Educating New Zealand (Wellington: Department of Internal Affairs, N.Z., 1941), p. 120.

were offered grants to encourage them to make provision for more practical types of course. The Act, while it envisaged the establishment of new technical schools as separate entities, threw most of its emphasis on the provision of manual classes in schools of all types already existing.

However, little success was achieved. The secondary schools, in the main, made little change in their courses and work of a practical kind was left to the technical day schools, which eventually arose in the four main centres, to do some of the work that the secondary schools would not handle. Their specific purpose was:

Providing pupils leaving the primary school and wishing to prepare for a definite trade or occupation, two or more years of pre-vocational training in general and special subjects connected with their chosen occupation. <sup>3</sup>

The gradual abandonment in New Zealand educational policy of the selective principle which was characteristic of English and Scottish educational policy, meant that New Zealand had to face up to the problem of devising a

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3. "Report of the Superintendent of Technical Education," Appendices to the Journals of the House of Representatives, 1938, E.2., p. 15.

suitable form of post-primary education for children without academic interests, and the technical schools developed because of the increasing demand for education by the less academically minded, who were kept out of the secondary schools by the conservatism, the bookishness of the curriculum, and the relatively high fees of those schools.<sup>4</sup> They turned to the day technical schools for a general education of a non-academic type, irrespective of their later vocational interests. The day schools originated as feeders for evening classes, but the New Zealand environment made them the more important.

Thus technical day schools became not technical schools in the English sense, but "New Zealand's unique answer to the problem of finding a suitable form of post-primary education for children with practical interests."<sup>5</sup> They provided a realistic general education that was designed, so far as the vocational future was concerned, "to produce adaptability and handiness and to give some insight into scientific principles."<sup>6</sup>

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4. Campbell, op. cit., p. 122.

5. H.G.R. Mason, Education Today and Tomorrow (Wellington: Government Printer, 1945), p. 32.

6. Campbell, op. cit., p. 124.

This was the basis of the theory developed by W.S. La Trobe, director of the first technical day school (opened in Wellington in 1905), and later Superintendent of Technical Education 1918-38. Campbell said:

He had a profound concern for the short course pupils who formed the bulk of the technical day school population, especially those about to enter industry, and for the young people already at work who came to evening classes for specialised training, and he believed that the first and essential duty of the schools was to cater for their needs. 7

La Trobe's successor at Wellington, J.H. Howell, described the day technical school as providing "for the skilled artisan, mechanic or clerk, what the ordinary school had been for the professional classes." 8

One reason for the generalised form of education in the technical day schools was the small part that manufacturing and industry played in the New Zealand economy. Industry was predominantly rural, the climate was ideal for pastoral farming and the development of refrigeration had enabled perishable primary products to

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7. Ibid., p. 127.

8. Report of the Commission on Education in New Zealand (Wellington: Government Printer, 1962), p. 379.

be transported safely to the other side of the world. Because of this, New Zealand's economy was based largely on the overseas sale of these products. In 1928-29 agricultural and pastoral products formed about 65% and manufactures about 19% of the total national production of £127 million. Of the manufactured goods, 47.27% were from industries engaged in the preparation of farm products and by-products for the market.<sup>9</sup> New Zealand then did not feel the pace of industrial change to the same extent as those countries primarily concerned with manufacturing industries.

Industrial development in New Zealand was further handicapped by the lack of mineral resources and the geographical shape and position of the country with its small, scattered population. This presented difficulties not found in other countries such as Great Britain and the United States, where many industries were specialised within a city or area. The four principal centres in New Zealand had the disadvantages of heterogeneity of occupation within a small city. No industry was large enough in one area of the country to warrant specialised

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9. New Zealand Official Year Book, 1931, pp. 535-36.

education, and the technical schools were compelled to offer education in general principles and skills which lay behind the work in large numbers of diverse industries. This, together with the tradition of apprenticeship, accounted for the absence of trade schools as were found in other countries.

In distinguishing between overseas trade schools, and technical schools as existed in New Zealand, the Superintendent of Technical Education, F.C. Reynard, said in his report in 1939:

The distinction is this: the trade school undertakes to teach as rapidly and efficiently as possible some definite ability or skill in connection with a particular occupation, so as to enable the trainees to take their place in that industry in as short a time as possible, with or without a shortened period of apprenticeship or improvership. The technical school, on the other hand, aims at a liberal education built on a foundation of the essential humanities, and with a core of science, and its application to industry, as the essential part of the superstructure. It does not aim at providing manual dexterity for a specific industry or even for a group of industries, though practical work is taken throughout the course. 10

He later indicated that the trade school was unsuitable for conditions as they existed in New Zealand.

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10. Appendices to the Journals of the House of Representatives, 1939, E.2., p. 10.

The apprenticeship system is useful, therefore, where the trade is characterized by individualism and where each employer covers a broad field of activities; the trade school, on the other hand, is more suited to a localized concentration of particular trades or branches of trades or where specialization is intense and opportunities for experience over a range of processes are few.

It cannot be said that this stage of localization and specialization has yet been reached in New Zealand. 11

These considerations were important later, when in 1944, the question of apprenticeship came under review.

By 1940 the technical school had tended to concentrate largely on day school work. John Nicol, writing at this time, said:

Before 1914, the latter (i.e. evening classes) were admittedly of prime importance; nowadays one can discern here and there a tendency to thrust them into the background. 12

Both in large schools and in the smaller ones, the principal of the technical school had tended to become a day school headmaster. F.H. Spencer, who

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11. Ibid., p.11.

12. John Nicol, The Technical Schools of New Zealand (New Zealand Council for Educational Research, 1940), p. 204.

visited New Zealand in 1937, under a grant by the Carnegie Corporation of New York, criticized the administration of the technical high school and the evening technical school because both were run by the one principal. He said:

The total work of the two departments is too great for one man to control in detail . . . whilst the general responsibility of the principal for all departments of the college work should be maintained, some person or persons should be on the staff, at least of the larger institutions, whose special responsibility it should be to organise, foster and supervise the evening work. And such head of the evening department or other appointed person should have sufficient time in the day to familiarise himself with local industry, interest employers and employed, recruit pupils where desirable, and generally infuse energy into that side of the work in which technical education of the specific kind is alone carried on. 13

Nicol had similar views, but felt that rather than delegate responsibility for evening work to a subordinate, the principal should have as his prime task, the control of the evening school. He said: "Under New Zealand conditions it is only in the evening

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13. F.H. Spencer, Technical Education in Australia and New Zealand (Carnegie Corporation of New York, 1939), p. 99.

school that much advanced technical work can be done." <sup>14</sup>

These comments are interesting in the light of later developments in the administration of the technical schools.

For most schools, the duration of the day courses in the technical high schools averaged two years one month. In 1938, 31% of the pupils in these schools left during their first year, 39% left in the second year, 22% during the third year and 8% in the fourth year, or later. <sup>15</sup> Thus only 30% of the pupils entered a third year and less than 69% completed a second year.

When these figures are compared with those of the secondary schools where 13% left in the first year and 36% left in the fourth year or later, <sup>16</sup> the difference in the length of courses in the two kinds of schools can be appreciated.

In addition, the pupils leaving the technical high schools tended to leave at any time during the year, in most cases when the leaving age of 14 was reached. This decrease in numbers throughout the school year, which added to the administrative problems in the technical

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14. Nicol, Loc. cit.

15. Ibid., p. 203.

16. Ibid., p. 202.

schools of the main centres, can be seen in Table I.

TABLE I 17

Decrease of Roll Numbers in  
City Technical High Schools (1936)

Technical School	Roll at 1st March	Roll at 1st July	Roll at December
Auckland	1576	1440	1145
Wellington	1027	903	767
Christchurch	1411	1326	1053
Dunedin	836	752	578
<u>Total:</u>	4850	4421	3543

Thus can be seen the reason for La Trobe's concern for the short course, technical high school pupil. Nicol also stressed the importance of this when he wrote:

The shortness of this term is the predominant factor in determining the character of the technical high school, which does its work successfully in proportion as it meets the needs of short-course pupils. 18

Later events, which changed the school leaving age and increased the length of time at school, also

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17. Ibid., p. 203.

18. Ibid.,

caused changes in the character of the technical high school.

The curriculum of the technical high schools by 1940 differed in detail from school to school, but followed the same broad lines in most. The practical training was general rather than specific and anything in the nature of specific and advanced technical education was provided only in the part-time evening classes. No trade was taught, but the schools had a vocational purpose. Emphasis was laid on courses rather than on specific subjects. The larger technical high schools provided full-time courses for:

- (a) the constructive trades,
- (b) commerce,
- (c) domestic occupations, including usually cookery and needlework,
- (d) art,  
and
- (e) a general course of a non-technical order definitely aimed at the university entrance examination. <sup>19</sup>

The latter course was taken by a small minority of pupils and was justified in a technical high school in order that pupils who later wished to go to university

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19. For a full account of the courses provided, see... Spencer, op. cit., pp. 103-12.

or decide upon an occupation for which a university course was desirable, were not denied the chance of matriculating.

A number of technical schools, however, allowed the University Entrance Examination to unduly influence their courses. This influence was criticized by Nicol, who said:

There is a difference between catering for special pupils of this character (i.e. those later desiring entry to a university professional course) and inviting a substantial number of new entrants to join, from the beginning of their technical school career, classes whose work is organised to suit the University Entrance Examination syllabus. 20

W.B. Sutch, later Secretary for Industries and Commerce, also commented on this, saying:

New Zealand has been subjected to the wasteful and socially injurious development of parallel post-primary educational systems both far too much dominated by the 'matriculation' examination - not because it gave entrance to the University but because of its cash value in the commercial and business world. 21

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20. Nicol, op. cit., p. 192.  
 21. W.B. Sutch, Quest for Security in New Zealand (Penguin Books, 1942), p. 148.

The attempt by the technical schools to challenge the secondary schools on academic ground was to a large extent brought about by the inferior position that was given to technical education. Although the 'selective' principle had been abandoned in educational policy and non-fee-paying pupils were admitted to the secondary schools, much of the social superiority enjoyed formerly by the secondary schools was retained. The Report of the Parliamentary Recess Education Committee referred to

the objectionable social distinctions which have hitherto tended to divide those who have received a secondary education from those who have not, as well as those who have received an academic education from those taught in the technical schools. 22

Sutch believed that social distinctions originated because admission to the technical schools was "based on lower standards than those for a free place in the secondary schools." 23

Noel Harrison, on the other hand, believed the underlying causes of the prejudice against the technical schools were not clear, but there was "for some outsiders

22. Report of the Parliamentary Recess Education Committee on Educational Reorganisation in New Zealand (Wellington: Government Printer, 1930),

p. 14.

23. Sutch, op.cit., p. 147.

a taint about the word technical . . ." 24

The later merging of the two types of post-primary school was to a large extent brought about because of the undue importance of the University Entrance Examination and the social inequalities which were developing.

Advanced technical training was carried on in evening classes. At this time, unlike many of the Australian states, there was no scheme of universal and compulsory day-time attendance of apprentices. Schemes such as this had been proposed in New Zealand from time to time, but these had not been instituted. Nicol blamed trade apathy for this, and quoted Howell, who, when asked by the Chairman of a Parliamentary Recess Committee in 1930, whether there was a lack of higher technical education in New Zealand, said:

Not for the needs of the community. I believe that the educational institutions as they are functioning today, are meeting the needs. You have to educate the public to get them to realise that their needs are greater than they think they are, and especially is that so in the case of employers. 25

Evening courses, provided, fell into two classes,

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24. Noel Harrison, The School That Riley Built (Wellington: Wellington Technical College, 1961), p. 108.
25. Nicol, op. cit., p. 215.

professional courses and trade courses. In the professional course the emphasis was placed on theory, the chief function of the practical work being to illustrate theory. In the trade course which was numerically the more common, the emphasis was on craftsmanship. All the larger institutions provided courses of both types in engineering, building trades (including carpentry, bricklaying and plumbing), cabinet making, commerce (including insurance, accountancy and shorthand and typewriting), painting and decorating. The course system was generally used as opposed to single subjects. Courses offered, however, varied from school to school and new courses were provided in any centre where a particular demand existed.<sup>26</sup>

By 1940, there were twenty-one technical high schools and seven combined secondary and technical schools in New Zealand, as compared with thirty-nine state secondary schools and ninety-five district high schools.<sup>27</sup>

The combined schools were formed by amalgamating secondary and technical schools in certain towns, a move which the Minister of Education, H.G.R. Mason, said

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26. For a full account of evening courses, see ...  
Spencer, op. cit., pp. 119-27.
27. Campbell, op. cit., p. 128.

was intended primarily to do two things - to render impossible the social stratification that tended to develop between secondary and technical schools and to enable the secondary schools to broaden their curricula by the inclusion of practical subjects. 28

The schools were: New Plymouth Boys' High School, New Plymouth Girls' High School, Napier Boys' High School, Napier Girls' High School, Wairarapa College, Nelson College, and Nelson Girls' College.

The technical schools themselves at this time, showed considerable diversification in function, but could be divided roughly into three classes. These were:

(a) The technical schools in the four main cities which catered for both sexes. Because there were large secondary schools in the same cities these technical schools did not, in the main, provide in their day schools, courses leading to the University Entrance Examination. Some of the evening classes were of a truly "technical" character, i.e. preparing students for associate membership of the Engineering Institutes, the examinations of the City and Guilds of London and the Education Department's Technological Examinations. A

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28. Mason, op. cit., p. 33-4.

few were purely trade classes. Some evening students prepared for University Entrance qualifications and there were many in accountancy and in other commercial classes.

(b) The technical schools in secondary cities and towns where there were also secondary schools (Hamilton, Palmerston North, Ashburton, Timaru, Invercargill). These schools differed from those in the main cities in their size and in the range of subjects they offered in evening classes.

(c) The technical schools in the smaller areas where there were no State secondary schools, (Otago, Wanganui, Stratford, Levin, Greymouth). In these, as mentioned above, the technical school did all that a secondary school did, as well as carrying out as many as possible of the functions of the ordinary technical schools.

In addition there was one technical school at Fielding which had a strong agricultural course instead of the usual industrial courses, and two schools of Art, at Auckland and at Christchurch, which were conducted under technical school regulations. <sup>29</sup>

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29. Ibid., p.33.

The schools in the first two of these categories were much more "technical" in their approach than the others and catered for far larger numbers of pupils.

## CHAPTER II

### TECHNICAL EDUCATION AT THE CROSSROADS

The early 1940's showed a trend for the distinction between technical schools and secondary schools to become less marked, and a widening of the function of post-primary schools throughout New Zealand. This was particularly so in the smaller rural areas where the broadening of secondary school courses and the introduction of practical subjects had made them almost indistinguishable from the technical schools, which had developed strong, unified courses, including in many schools, academic courses leading to University Entrance.

This trend, stemmed largely from the change of emphasis in educational policy, which was brought about by the rise to power of the Labour Party. The educational objective of the Labour Government, as expressed in the report for 1938 by P. Fraser, then Minister of Education, was

that every person whatever his level of academic ability, whether he live in town or country, has a right as a citizen to a free education of the kind for which he is best fitted and to the fullest extent of his powers. <sup>1</sup>

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1. Appendices to the Journals of the House of Representatives, 1939, E.1., pp. 2-3.

He later went on to say that although the rigour of the 'selective' system of education had been progressively relaxed in New Zealand

the principle of selection for post-primary and higher education remained and the present government was the first to recognise explicitly that continued education is no longer a special privilege for the well to do or the academically able, but a right to be claimed by all who want it, to the fullest extent that the state can provide. <sup>2</sup>

The consequences of this policy were numerous. It required not more schools of an academic type, but a larger number of schools catering for all types of children, providing varied courses which were appropriate to the needs of the children. It required more and better trained teachers. It required a school system which operated as a unit within which there was free movement. <sup>3</sup>

In the following years a number of the changes that were made had a very big influence in the development and scope of post-primary education and in particular, the place of the technical school in the post-primary framework.

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2. Ibid., p. 3.

3. Ibid.

The school leaving age was raised to 15 years from the beginning of 1944. Legislative provision for this change had been made under the 'Education Amendment Act 1920', but the change had not been brought into operation owing to "the incidence of a period of financial depression from 1921 onwards." <sup>4</sup>

In the following years, various proposals were made urging the raising of the school leaving age. The Recess Education Committee recommended in 1930 "that the age to which the education of a child is required by law be raised from 14 to 15 years, with provision for exemption in cases of hardship," <sup>5</sup> but no action was taken.

La Trobe, in his report for 1935, saw the need for the raising of the school leaving age as a measure to prevent children being rushed into employment when industrial conditions were favourable. <sup>6</sup>

The Technical Education Association of New Zealand approved a remit on this matter in 1937, and received a reply from the Minister of Education that

4. Report of the Parliamentary Recess Education Committee on Educational Reorganisation in New Zealand (Wellington: Government Printer, 1930), p.11.
5. Ibid., p. 13.
6. Appendices to the Journals of the House of Representatives, 1936, E.2., p.11.

"the Government intended to raise the school leaving age as soon as possible." <sup>7</sup>

However, when the move finally came it was not the educational advantages which were primarily responsible. In his report for the year 1942, the Minister of Education, H.G.R. Mason, indicated that the change was necessary, although conditions at the time were not the most suitable. He said:

I am convinced that if we wait until every additional building and teacher is ready we shall wait for ever. I would prefer to raise the school age now when the need is greatest even if we have to use rather makeshift accommodation. Owing to war conditions there are an increasing number of young adolescents who are missing the discipline of a normal home, and it is essential that the school keep its grip on them during these very critical years, even if it cannot give them quite the facilities one would wish for. <sup>8</sup>

He proposed "temporary means" to meet the demand for teachers and "some simple kind of temporary room" to meet accommodation needs until the end of the war.

The proposal was included in the 'Education Amendment Bill 1943' and it was well received by the House of Representatives. Some doubt was expressed as

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7. Technical Education Association of New Zealand, Report of Annual Conference, 1937, p. 16.
8. Appendices to the Journals of the House of Representatives, 1943, E.2., p. 2.

TABLE II

Total Rolls of all Post-Primary Schools as at 1st March  
(the Number of Schools is Shown in Parentheses)

	1942	1943	1944	1945	1946	1947
Secondary School	15512 (39)	16218 (39)	18573 (39)	20042 (39)	20255 (40)	20242 (40)
Technical School	10013 (21)	10799 (21)	12530 (21)	14295 (23)	14943 (25)	15862 (28)
Combined School	3150 (7)	3276 (7)	3639 (7)	3843 (7)	3839 (7)	3869 (7)
Secondary Department of District High School	6244 (99)	6320 (98)	7356(101)	8708(104)	8375(103)	8329(107)
Registered Private Post-Primary School	6372 (63)	7002 (63)	7978 (67)	9146 (75)	9623 (80)	10163 (82)
<b>Totals</b>	41291	43615	50076	56034	57035	58465
Total increase over previous Year		2324	6461	5958	1001	1430
Increase in No. at Technical Schools		786	1731	1765	648	919

to the favourability of the proposal at the time, but it was generally agreed that the reform was an important one and should not be held up, as other educational reforms had been, because of difficult times. Members agreed that the main difficulties would lie in providing accommodation and teachers and the hope was expressed that temporary measures would not become permanent.<sup>9</sup>

The Bill however, was later withdrawn, but the school leaving age was raised by regulation.

The burden of this change on technical schools was considerable. They had traditionally catered for the more practical, less academically-minded pupil, and were called upon to cater for those 14 year olds who would normally have left school at the end of the primary school or at the age of 14 years, while at secondary school. The retention of 14 year olds at school brought a very big increase in roll numbers during 1944 and 1945. This is illustrated in Table II, (facing).<sup>10</sup>

When the increases are expressed as a percentage of the total roll numbers, the sharp increase in the

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9. New Zealand Parliamentary Debates, Vol. 263, pp. 573-95.
10. Appendices to the Journals of the House of Representatives, 1948, E.2., p.9.

number of pupils attending post-primary schools and in particular the technical high schools, can be more clearly seen as in Table III.

TABLE III

Percentage Increase in Roll Numbers of  
Technical High Schools and all  
Post-primary Schools 1943-47

	1943	1944	1945	1946	1947
Percentage increase in Post-primary roll.	5.3%	12.9%	10.6%	1.7%	2.4%
Percentage increase in Technical School roll.	7.3%	13.8%	12.4%	4.3%	5.8%

The large roll increases brought, as anticipated, serious shortages of accommodation and teachers.

At the Hamilton Technical High School the roll rose from 580 in 1943 to 735 in 1944 and to 870 in 1945. The Principal, W. Fraser, reported in 1945, that the school was understaffed to the extent of six or seven teachers and more classroom accommodation was needed, especially for workshop and laboratory work. <sup>11</sup>

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11. New Zealand Herald, 15 February, 1945.

At Otahuhu Technical High School, the Principal, G.W.C. Drake, pointed out that the roll of the secondary department had increased from 393 in 1942 to 1025 in 1945. Three classes were accommodated in a church hall, shelter sheds were converted into classrooms and other classes were taught in open air.<sup>12</sup> He later indicated that the school was rapidly falling into a disorganised state and the possibility of rotating the attendance of a section of the pupils was being considered because of the slow arrival of temporary classrooms.<sup>13</sup>

At the Seddon Memorial Technical College, Auckland, a preliminary survey by the Department in 1944, showed that the probable demand for places could not be met in later years. In view of this, changes in courses were made. Some courses were dropped and children were directed to other schools catering for these courses.

The Superintendent of Technical Education reported that these measures had proved sufficient in the meantime, but that a permanent solution could only be

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12. Ibid., 7 February, 1945.

13. Ibid., 5 April, 1945.

found in the erection of more post-primary schools.<sup>14</sup>

The Avondale Technical School was opened in 1945, to ease the pressure on the technical schools in Auckland. The buildings used had been erected as a United States Naval Hospital, but were so designed as to be readily convertible for school purposes.

By 1946 the major effect of the increase was over, but it left many schools with temporary classrooms which were destined to become almost permanent in later years.

It was not only the raising of the school leaving age which contributed to the difficulties of the technical schools during this period, but also the increased percentage of the population going on to post-primary education.

One of the first moves of the Labour Government was the abolition (after 30th September, 1937) of the Proficiency Examination and the issue of certificates of proficiency and competency required for a pass from standard six and for free entry to secondary schools. Free post-primary education was made available to all who desired it. The resulting increase is illustrated

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14. Appendices to the Journals of the House of Representatives, 1945, E.2., p.6.

in Table IV.

TABLE IV <sup>15</sup>

Numbers and percentages of pupils leaving Public Primary and Intermediate Schools and Departments intending to go on to Post-primary schools

	1937	1942	1946
Number	14933	16370	17783
Percentage	65	70	85

In forms 3 and 4 of the post-primary schools, there were a large number of children who formerly would never have gone beyond Standards 4 or 5. Because the majority of these children required a more practical kind of course, their needs were better met by the technical schools. In towns where these did not exist the secondary schools developed the kind of course normally found in a technical school. The 'combined' schools which had been formed in some areas by amalgamating existing technical and secondary schools, were found to suit the conditions that prevailed, and

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15. Appendices to the Journals of the House of Representatives, 1948, E.1., p. 3.

the trend towards multi-course schools continued when new schools were later established.

The increased number of children attending post-primary schools and the greater variety of courses required, showed a need for changes in the examinations which marked the successful completion of a secondary school course. For the increasing number of pupils, who required a good secondary course to prepare them for entrance to industry or commerce, the demands of the University Entrance Examination were purposeless, but, this qualification had become the hallmark of a completed education for parents and employers, who demanded it for their children and junior employees, thus condemning children in many cases to studies for which they had neither the interest nor the aptitude. 16

However, attitudes were slowly changing. A greater interest was being shown in education as a result of the depression and the social welfare programme of the Labour Government. A number of the secondary schools had begun to feel that perhaps they had concentrated too rigidly on examinations in judging their pupils. This is seen in a motion passed at the

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16. Appendices to the Journals of the House of Representatives, 1944, E.1., p. 2.

Secondary Schools' Association Conference in 1936,  
which stated:

The curriculum has adhered too long to traditional valuations and has lost touch with the realities of modern life and especially with the changing needs of our own society. 17

The Association criticized the curriculum's undue deference to examinations and advocated a new syllabus based on a common core including English, social studies, general science, health, handwork, art, and arithmetic. 18 This statement was remarkable, not for its content, but because of its source.

In 1934, the Education Department had endeavoured to meet the needs of the less academic children by instituting the School Certificate Examination, which offered a much wider choice of subjects than the University Entrance Examination. However, this examination did not become popular and it was in 1944, when the conditions for entrance to the University were changed, that the way was cleared for the School Certificate Examination to come into its own as the

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17. Noel Harrison, The School That Riley Built  
(Wellington: Wellington Technical  
College, 1961), pp. 108-9.
18. Ibid.

mark of a completed secondary course for children not contemplating university studies. 19

In November, 1942, a Consultative Committee was set up to examine the post-primary curriculum and recommended a syllabus for a revised School Certificate Examination. The Committee, under the Chairmanship of W. Thomas, M.A., LLB., was appointed with the following terms of reference:

To consider and report upon the implications for the post-primary school curriculum of the proposed introduction of accrediting for entrance to the University and in particular to make recommendations regarding:

- (1) The choice of subjects for the School Certificate Examination;
- (2) The content of these subjects;
- (3) Any consequent modifications of the Public Service Entrance Examination and the Free Place Regulations. 20

This Committee, in its report, urged that each school should "re-examine its theory and practice, make up its mind about the real needs of its pupils and the means by which they can best be met, and then act

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19. Appendices to the Journals of the House of Representatives, 1944, E.1., p.2.
20. The Post-Primary School Curriculum (Wellington: New Zealand Department of Education, 1959), p.(v).

courageously in accordance with its findings." 21

The Committee also pointed out that the post-primary school, being no longer selective, would have to cater for a wider range of abilities and interests in its pupils.

There is need, in the first place, for a fairly general change in approach. The traditional academic approach was suitable, up to a point, for the select few, but is quite inappropriate for the ordinary pupil, who learns best through methods that give scope to his urge to be doing things. 22

A traditional belief was dispelled by the Committee when it said:

Much harm is done by the common notion that the choice is simply between a 'bookish' general education for those with good verbal powers, and a 'practical' education of a narrowly vocational kind for those without them. A general education can be secured in practical ways, and differentiation should often be considered not so much as a problem of curricular content as one of method. 23

The report was presented to the Minister of Education in November, 1943, and in 1945 the Education (Post-Primary Instruction) Regulations (Code No.1945/143) were issued to give effect to the recommendations of the Committee. These listed English and thirty-one optional

21. Ibid., p. 4.  
 22. Ibid., p. 7.  
 23. Ibid.

subjects for pupils sitting the School Certificate Examination.

Commenting on the new curriculum, G.W.C. Drake, principal of the Otahuhu Technical High School, said:

Fears have been expressed ... but it would seem that the proposed plan is a natural development of what is becoming regarded as a worth-while education for all school pupils and not merely a select few who have a brain for and an interest in purely academic studies. <sup>24</sup>

The new School Certificate prescription had an important influence on technical schools as it allowed a technical school pupil to qualify with a group of practical and technical subjects for exactly the same Certificate as could be obtained by the majority of secondary school pupils and it freed the technical schools from the influence of the University Entrance Examination and in particular from the need to teach a foreign language which was one of the requirements of the University Entrance Examination. <sup>25</sup>

As a result new courses had to be designed to include a maximum of workshop and laboratory experience

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24. New Zealand Herald, 15 December, 1943.

25. Appendices to the Journals of the House of Representatives, 1945, E.1., p.3.

and at the same time to provide general subjects in such a way that they were interesting and of use to the pupils. A greater understanding of children, as well as an understanding of subjects, was required by teachers. In the curriculum there was a shift of emphasis from work of a vocational type to that of a more general and pre-vocational nature. This, coupled with the shift in secondary schools to a broader range of courses and a more practical approach, reduced to a marked degree the differences which had earlier been evident between the education given in the technical and the secondary schools. In the report of the Superintendent of Technical Education, F.C. Reynard, for the year 1945, are the following words:

Many secondary schools, however, especially those in country districts are widening their curricula and undertaking courses similar to those that were at one time only to be found in technical high schools ... sharp differentiation in function is now to be found only in places where schools of different types exist side by side, and that even in these circumstances the gap tends to close. 26

In addition to the changes in the curriculum of the day school pupils, the conditions of tenure of a

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26. Appendices to the Journals of the House of Representatives, 1946, E.2., p. 12.

free place by part-time pupils in technical and continuation classes, whether held by day or evening, were changed in the Education (Free Place) Regulations 1945, (Code No. 1945/142). Previously a free place could be held if the students took at least two related subjects. Under the new regulations a student, if under nineteen years of age, was required to take a course of instruction defined as such by the Principal and approved by the Director of Education. The purpose of this was to encourage young students to continue with a complete course of studies, and to discourage the taking of one or two subjects that were only part of a reasonable course. If the student was over nineteen years of age and still entitled to a free place, he could be admitted even if he was taking only one subject or a group of unrelated subjects, provided that he was of a high enough standard to profit from the class.

The general effect of the regulations was that up to nineteen years of age, hobbies classes and odd subjects had to be paid for, but a course of instruction was free; after nineteen all classes were free, provided the student did not seek to enter for a course for which he was not prepared. <sup>27</sup>

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27. The New Zealand Education Gazette, Vol. XXV, No.4, 1 April, 1946, pp. 99-100.

These regulations recognised the trend in the technical schools to work on a course system and provided a better basis for the development of senior technical work.

## CHAPTER III

### CHANGES IN ORGANISATION AND ADMINISTRATION OF TECHNICAL SCHOOLS

The tendency for the technical and the secondary schools to come closer together in the kind of education provided, was accompanied by a number of changes in the control and the administration of post-primary schools. Prior to 1940 most of the technical high schools were under the immediate direction of boards of managers, although ultimate control was generally vested in an education board.<sup>1</sup> On the other hand the secondary schools and combined schools were controlled by boards of governors, in most cases elected specially for the purpose. All secondary schools in a city were under the same board.<sup>2</sup>

This situation arose mainly through the differences in origin of the two types of school. Provision for secondary education in the beginning was considered as much a voluntary as a state concern. There grew up the private secondary schools, fostered mainly by the churches,

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1. H.G.R. Mason, Education Today and Tomorrow (Wellington: Government Printer, 1945), p. 33.
  2. Ibid., p. 39.

and endowed in various ways, and the public secondary schools, endowed with lands by provincial and later central government. Many of these were established under their own special Acts and they were all independent of the education boards. From 1903, technical high schools were established under the control of education boards, which at first handed immediate control to a board of managers, but after 1930 retained control and delegated certain responsibilities to a local committee.

These differing types of control aroused criticism on many sides. I.L. Kandel, while visiting New Zealand, commented:

The organisation of education must also be such as to provide that the right pupils receive the right education from the right teachers. In other words education must be adapted to the abilities and capacities of the pupils who receive it. Such adaptation cannot be effectively carried out if the provision of schools is divided by a number of different and in some cases competing authorities - primary education under one body, secondary education under another, technical education under a third and so on. <sup>3</sup>

The question of unification of control and the

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3. I.L. Kandel, Impressions of Education in New Zealand (N.Z.C.E.R. 1937, Studies in Education No. 2.), p. 6.

means of achieving this was very much to the fore during the 1930's. The Parliamentary Recess Education Committee in 1930 favoured unified district control and its report recommended "that unification of control of the existing primary, secondary and technical education in New Zealand is desirable." <sup>4</sup> It felt that unification would eliminate

the objectionable social distinctions which have hitherto tended to divide those who have received a secondary education from those who have not, as well as those who have received an academic education from those taught in the technical schools. <sup>5</sup>

It paid tribute to the "valuable work done by the separate secondary and technical high school boards in the development of post-primary education in New Zealand," <sup>6</sup> and recommended their abolition except as individual school councils.

The proposed scheme for unification did not meet with the complete agreement of many people actively interested in technical education, who felt that the existing satisfactory relationship between the technical

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4. Report of the Parliamentary Recess Education Committee on Educational Reorganisation in New Zealand (Wellington: Government Printer, 1930), p. 48.
5. Ibid., p. 14.
6. Ibid., p. 45.

schools and the Department of Education should not be altered. The managers of technical schools had considerable control over administration and finances. They appointed the teachers and paid their salaries, and made arrangements for new buildings and sites. They also dealt directly with the Department. It is small wonder that proposals to remove these powers met with apprehension. W.G. Aldridge, Principal of King Edward Technical College, Dunedin, in evidence to the Committee, said:

I do not think that technical education would have made much progress if their (i.e. the technical schools') control had been wholly in the hands of a local body responsible for all the education of a district. I sincerely trust that, whatever changes in control may be suggested, there may yet be an official directly responsible to the Department of Education, preferably as Chairman of any local Board that may be constituted. <sup>7</sup>

In 1938, the Minister of Education (then P. Fraser), brought down an Education Bill which utilised much material from the earlier report. It provided for the unification of controlling authorities under twelve new district boards with authority over both the primary and the post-primary schools in their areas. The existing

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7. Ibid., p. 44.

post-primary Boards were to be replaced by school councils with more limited powers. The Bill was not proceeded with by the Government, but it was not officially withdrawn.

The establishment of Horowhenua College in 1940, raised a problem as to what form of control this new post-primary school should have. An independent board for the college would have invited the comment that the 1938 Bill had been completely abandoned, but the Government apparently had no wish to commit itself finally to district unification of control. The Government refrained from any moves likely to cause serious opposition and constituted the new college as a technical high school under the control of the Wellington Education Board. The proviso was made that the arrangement was not necessarily a permanent one and the position would be reviewed in the future. The same procedure was followed in Auckland in 1944 when Avondale College was established, in 1945 when the Tauranga and Matamata district high schools became full post-primary schools and in 1946 when the Northcote, Kaikohe and Te Awamutu district high schools similarly changed their status. In addition to these the Auckland Education Board had been controlling another

technical high school - Otahuhu - for many years.<sup>8</sup>

Because the Education Act did not give Education Boards any power to control secondary schools, all the schools mentioned were officially technical high schools, though they were permitted to use the title of 'college'.<sup>9</sup> By 1948, taking Auckland City as an example, there were:

- (a) the grammar schools, providing in their earlier days an education mainly of the academic type,
- (b) the Seddon Memorial Technical College with its three branches of academic, commercial and technical education, and
- (c) the new colleges, constituted as technical high schools under the control of the Auckland Education Board, providing a number of comprehensive courses.

Therefore the terms 'secondary', 'combined', and 'technical' used in official reports did not, in the words of Mason, "accord very closely with the nature of the schools."<sup>10</sup>

A.E. Campbell, who was asked by the Department of Education to make a survey of the control of post-primary

8. A.E. Campbell, The Control of Post-Primary Schools (N.Z.C.E.R., 1948), p. 7.

9. Ibid.

10. Mason, op. cit., p. 39.

schools in the Auckland district agreed with this view.

In his conclusions he said:

It is a commonplace that the existing legal distinctions between 'secondary', 'combined' and 'technical high' schools do not correspond to the educational realities, and it would appear that all such schools should be officially known as 'post-primary' schools, and that the Minister should be empowered to establish post-primary schools without having to depend either on the initiative of an Education Board or on the passage of a special Act. 11

In his report for the year 1951, the Minister of Education, R.M. Algie, summed up the situation as it existed. 12 By March, 1952, he had defined the policy which was to be followed in this matter. In a letter to the Auckland Education Board, he said:

It is desirable that post-primary schools should be controlled by boards specifically established to control post-primary schools alone. In some circumstances it may be desirable that an Education Board act as the controlling authority for the first few years after the establishment of a post-primary school. 13

'The Education Amendment Act 1952' made provision

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11. Campbell, op. cit., p. 52.  
 12. Appendices to the Journals of the House of Representatives, N.1., p. 5. (1952).  
 13. I.L. Cumming, Glorious Enterprise (Whitcombe and Tombs Ltd., 1959), p. 666.

for the variation of the constitution of governing bodies of secondary schools and of boards of managers of technical schools by amending earlier legislation. It also made provision for changes in the control of technical schools by making it possible for technical schools to assume full control of their own destinies, if so desired by the board of managers or any committee to which powers had been delegated by the controlling authority. <sup>14</sup>

Algie expressed the aim of this move in an address to the Post-primary Teachers' Association Conference in 1953:

In the administration of your schools the aim will be for a single post-primary school or a group of post-primary schools that come together by their own volition and who will run their own show. <sup>15</sup>

The Parliamentary Recess Education Committee, in addition to proposing district unification of control of schools, also urged the uniting of the several teachers' bodies to form a national organisation, the preparation of a new salary scale "covering the whole Education Service, with a view to the elimination of

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14. Appendices to the Journals of the House of Representatives, 1953, E.1, p. 5.  
 15. The New Zealand Post-Primary Teachers' Journal, Vol. 2, No. 2, July, 1953, p. 21.

anomalies at present existing as between primary, secondary and technical services ..." <sup>16</sup> and changes in the methods of inspection and grading of teachers.

Differences which existed in these areas again had historical associations. In the technical high schools, salaries were paid to the teachers

according to a scale which prescribes higher classification and remuneration for teachers qualified to teach academic subjects than those qualified to teach technical (manual, domestic, and agricultural) subjects only. <sup>17</sup>

There were two divisions in the classification, namely: Division I - Professional; and Division II - General. Each was divided into six classes, class six being the highest. A university degree or equivalent was required "inter alia" <sup>18</sup> for admission to the professional division. A teacher's salary was determined solely by his classification. This Dominion system of classification of technical school teachers and manual training instruction had been instituted in 1920.

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16. Report of the Parliamentary Recess Education Committee. Op. cit., p. 60.  
 17. Ibid., p. 55.  
 18. These words were used to indicate that a degree with no bearing on a teacher's work did not entitle him to professional status.

It brought, according to Nicol, both advantages and disadvantages. It meant that

professional and academic qualifications were systematically evaluated and teachers thereby encouraged to improve their standing. Teaching skill was appraised by independent persons who acted judicially and had all the technical schools of the Dominion under their purview. No one was at the mercy of an individual's whims and fancies. 19

However, he criticized the scheme because the use of two divisions created an unwarranted distinction. Irrespective of personality, teaching skill, culture and enthusiasm, teachers without a university degree or equivalent qualification were branded as inferior, paid lower rates of salary, and excluded from promotion to the highest ranks. 20 This had the result, that

in 1940, after the scheme has operated for twenty years one finds that there is scarcely a technical school principal in the whole of New Zealand with technological or industrial experience. Almost without exception the principals' training has been theoretical. 21

It was not until 1943, however, that this situation was changed. Regulations gazetted in October, made

19. John Nicol, The Technical Schools of New Zealand  
(N.Z.C.E.R., 1940), p. 129.
20. Ibid., p. 130.
21. Ibid., p. 132.

provision for the classification of all technical school teachers in one division as from the 1st December, 1943. <sup>22</sup> F.C. Roynard, the Superintendent of Technical Education said:

I regard this as one of the most important steps that have recently been made for the advancement of technical education, enabling the Department to offer conditions of service much better calculated to draw suitable men from industry to be trained as technical school teachers and, what is equally important to retain them in the service. <sup>23</sup>

However, despite this change, differences in grading and methods of appointment still existed between the 'secondary' and the 'technical high' schools. In 1944, Mason wrote:

There are at present separate regulations governing teachers in the secondary and in the technical services. In both services teachers are graded by the Education Department's Inspectors, but the grading is into much broader groups than in the primary service, and the only real connection between grading and appointments is that no teacher may be appointed to the highest level of assistant's position unless he is in the highest grading group. This applies also to the appointments of principals of secondary

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22. See Manual and Technical Instruction Regulations 1925. Amendment No. 17 (Serial No. 1943/38).  
 23. Appendices to the Journals of the House of Representatives, 1944, E.2, p. 5.

schools, but not to those of technical or combined schools. Secondary and technical teachers are employees of their respective boards. Appointments in the secondary schools are entirely in the hands of the secondary school boards, and the Education Department, while it may be informally consulted, has no control over the appointment of either principals or assistants. In the case of all technical and combined school appointments, on the other hand, the approval of the Minister of Education or of the Department is necessary.

New regulations are now being drafted which combine secondary and technical school teachers administratively into the one service, with a common salary scheme and common conditions. 24

The regulations were the Education (Post-Primary Teachers) Regulations 1945 (Serial No. 1945/24) and they applied with respect to:

- (a) All secondary schools within the meaning of the said Act; (i.e. 1914 Education Act);
- (b) All technical schools (including technical high schools) established under the said Act; and
- (c) All combined schools established under the said Act. 25

They included reference to classification, salaries, and conditions of appointment of teachers

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24. Mason, op. cit., p. 65.

25. See New Zealand Statutory Regulations 1945/24 Section 3(3).

in post-primary schools. Previous regulations relating to Secondary Schools and Manual and Technical Instruction were revoked by the Education Regulations Revocation Order 1945 (Serial No. 1945/58). Thus for the first time secondary and technical teachers were classified under a common set of regulations, which removed many of the points of distinction between the 'secondary' and 'technical high' schools.

Another step in the unification of the post-primary services was soon made. When Reynard retired on the 31st July, 1946, changes were made in the post-primary inspectorate. The position of Superintendent of Technical Education was eliminated and the Chief Inspector of Secondary Schools, E. Caradus, was appointed Chief Inspector of Post-primary Schools. In 1947 the inspectorate was strengthened numerically and began to work in one group over all post-primary schools instead of in two distinct groups, 'secondary' and 'technical', as previously. <sup>26</sup>

As a further measure of unification during 1946, the grants to secondary and technical schools, for

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26. Appendices to the Journals of the House of Representatives, 1947, E.2, pp. 10-11.

incidental purposes and administration, were for the first time made on the same basis. <sup>27</sup>

The amalgamation of the New Zealand Technical School Teachers' Association and the New Zealand Secondary Schools' Association, represented another step in the unification of post-primary education. The first moves to consider amalgamation were made in July, 1936, when sub-committees of the two Associations met for this purpose. A proposed constitution was drafted and referred to the members of both Associations, but the war apparently postponed further progress at that stage.

The intention of the Education Department to bring all post-primary schools under one set of regulations revived the idea of amalgamation, and at the Secondary Schools' Association Conference in August, 1944, the delegates unanimously passed a resolution recommending the Executive to approach the Technical School Teachers' Association Executive with a view to the amalgamation of the two Associations. <sup>28</sup> However,

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27. Ibid.

28. S.T.A. (The Official Organ of the New Zealand Secondary Schools' Association and the New Zealand Technical School Teachers' Association), Vol.IX, No.10, p. 2.

despite the negotiations over a number of years, amalgamation did not take place. In the meantime the staffs of the newer multi-lateral schools were either split between the two Associations, or affiliated to one or the other by majority decision. This unsatisfactory situation was resolved in 1951, when the two bodies agreed upon a constitution and the New Zealand Post-Primary Teachers' Association was formed.

The changes discussed in this chapter, along with the changes in the curriculum discussed earlier, brought about in New Zealand a 'multi-lateral' or 'comprehensive' system of post-primary education, whereby each school aimed "to provide for all pupils of secondary age irrespective of their intellectual abilities or natural bent." <sup>29</sup>

The Minister of Education, R.M. Algie, reported:

I am glad to see a type of school in which all children work and play in the same atmosphere, without any thought that their differing abilities have social significance. <sup>30</sup>

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29. G.W. Parkyn (Editor), The Administration of Education in New Zealand (Wellington: New Zealand Institute of Public Administration, 1954), p. 55.
30. Appendices to the Journals of the House of Representatives, 1952, B.1, p. 3.

PART II

DEVELOPMENTS IN SENIOR TECHNICAL EDUCATION

## CHAPTER IV

### THE ROLE OF EDUCATION

#### IN APPRENTICESHIP TRAINING

In 1946 another measure, which had a most profound and far reaching effect on the technical high schools was introduced. The 'Apprentices Amendment Act 1946', among its major provisions, allowed for compulsory attendance of apprentices at technical evening classes and day-release classes conducted in the schools.

Dissatisfaction with the apprenticeship system had been expressed many times in previous years. La Trobe pointed to the breakdown of the apprenticeship system during the depression years and argued that full-time attendance at a technical school should be equivalent to time served in apprenticeship. He favoured compulsory part-time attendance at technical schools during working hours and aimed at providing the country with a regular supply of trained workers, not too many or too few, as had been the case in previous years.<sup>1</sup>

In 1936 the Chairman of the Technical Education Association, W.H. Bennett, in his address to the annual

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1. Noel Harrison, The School That Riley Built (Wellington: Wellington Technical College, 1961), p. 104.

conference said:

The modern system of apprenticeship differs fundamentally from the apprenticeship that preceded the industrial era. The latter educated the individual, the former rather stultifies the individual. It certainly does not provide an education. It is now a relic which is of little value to industry, and of small advantage to the apprentice. <sup>2</sup>

The Association decided later to set up a sub-committee on Apprenticeship to bring down definite constructive proposals to submit to the Minister of Education. <sup>3</sup>

The report of the sub-committee was presented at the annual conference in 1937. It outlined weaknesses in the apprenticeship system, it discussed conditions requisite for training skilled workmen and contained recommendations for improvement, together with the means by which these could be implemented. The recommendations included; general registration of apprentices in designated trades, compulsory part-time training in technical schools, the need for suitable pre-vocational training and allowances for this, and variation of the

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2. The Technical Education Association of New Zealand, Report of Annual Conference, 1936, p.5.  
 3. Ibid., p. 14.

period of apprenticeship according to ability and initiative.<sup>4</sup>

In 1943, R.G. Ridling, Director of the Wellington Technical College, and a member of the earlier sub-committee, made a report to his board of managers in which he claimed that revised attitudes were needed in technical education. He maintained that the state had not accepted its responsibility to provide better facilities to enable the schools to meet the demand for higher production. He suggested the creation by each major industry of a Dominion Apprenticeship Control Committee, local committees, close co-ordination between industry, Government and schools, fixed educational standards for entry into trades and day training of apprentices. The schools would require more equipment and facilities to enable instruction to be given in the fundamental principles of crafts. He said:

These, I believe, are all necessary provisions for a satisfactory system of training and the sooner we open our eyes to see that apprentice training is not a hit and miss affair but a serious educational problem, the sooner we will establish satisfactory

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4. The Technical Education Association of New Zealand, Report of Annual Conference, 1937, pp. 31-5.

standards and satisfactory conditions in industry. 5

The following year employers and workers from a number of trades discussed these proposals. Later the same year a Commission was set up to give an indication of the direction that technical education should take, especially in relation to the training of apprentices. The recommendations that were made by this body had a big influence on the development of the technical schools.

The Commission, under the chairmanship of His Honour Mr. Arthur Tyndall, was directed:

- (1) To investigate existing educational facilities of both pre-vocational and vocational character and to report on changes necessary to meet the present and future needs of industry so far as they can be foreseen.
- (2) To examine existing legislation bearing upon apprenticeship; to make recommendations as to changes in such legislation, or as to new legislation which might be necessary to enable the reforms recommended by us to be carried into effect. 6

The introduction of the report indicated that if New Zealand was to hold her place in industry and

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5. Harrison, op. cit., p. 112.  
 6. Appendices to the Journals of the House of Representatives, 1945, H.11(b), p. 3.

achieve her main social objectives, the general standard of craftsmanship in manual trades would have to be improved. While agreeing with apprenticeship in principle, the Commission felt that it was not at the time producing satisfactory results. In making a tradesman the Commission stressed three parts - pre-vocational education, vocational education and apprenticeship, but indicated that they should be co-ordinated to the greatest possible degree, as misunderstanding of the nature and purpose of the technical schools by employers had frequently led to a lack of co-operation in the education of apprentices. The Commission recommended that the representatives of education and industry should collaborate closely to achieve co-ordination. They particularly felt that industries could co-operate with the technical schools by lending or giving specialised equipment for trade classes. 7

In discussing pre-vocational education, the Commission felt that many complaints heard about the unsatisfactory education of boys in trades, arose from the faulty selection of apprentices and recommended

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7. Ibid., p. 10.

that in trades where a theoretical knowledge was important the Apprenticeship Committees should see to it that only boys known to have the capacity to acquire that knowledge be admitted to apprenticeship. They suggested that in selection, greater emphasis be placed on reports from headmasters, careers' teachers and vocational guidance officers. The Commission welcomed the raising of the school leaving age to 15 and expected that in the future most intending apprentices would have at least one year's post-primary education and that many would have at least two years. <sup>8</sup>

Evidence submitted to the Commission showed that the technical schools were finding it difficult to obtain well-qualified instructors in trade subjects. The difficulty here was not a new one, but its solution had not been brought about because, in the words of the Minister of Education in 1938 (then P. Fraser):

The department cannot offer higher salaries to beginners in special positions, such as teaching, who have not received a professional training for teachers.

The position is one that cannot be remedied by giving trained teachers courses in technology. It requires

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8. Ibid.

that trained technologists should be given training in teaching. 9

In view of this policy and the emphasis on academic qualifications in technical salary scales, little had been achieved. The Commission recommended that "when salary scales affecting technical teachers are being drawn up, due regard be paid to the remuneration of similiarly qualified persons in industry."<sup>10</sup>

At the time this recommendation was made the Education Department was about to put into operation the Education (Post-Primary Teachers) Regulations 1945 (Serial No. 1945/24) which were discussed in Chapter 3.

These gave greatly improved salaries and conditions for technical teachers.

A major change recommended by the Commission concerned the administration of apprenticeship orders which, under the 'Apprentices Act, 1923', were carried out by local committees.

The Commission found "a multiplicity of local apprenticeship orders distinguished by their variability and discrepancies one from another."<sup>11</sup> It recommended

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9. New Zealand Herald, 22 July, 1938.  
 10. Appendices to the Journals of the House of Representatives, 1945, H.11(b), p. 15.  
 11. R.V.Kirby, 'Apprenticeship in New Zealand', Unpublished Thesis, Victoria University College, 1956, p. 81.

that, instead of local committees continuing to administer district orders, "Dominion Apprenticeship Committees for each industry or group of allied industries should be set up." <sup>12</sup> These would deal with the policies underlying the orders, leaving the local Apprenticeship Committees with greater freedom to conduct their localized and more intimate aspects of administration.

The subject of vocational training for apprenticeship, particularly the controversial issues surrounding 'daylight training' (that is attendance at technical classes within the usual hours of employment), brought before the Commission a considerable amount of evidence both for and against its introduction.

Employers' representatives, with few exceptions, strongly opposed the idea on the grounds that:

1. In some trades, such as plastering, where very little necessary theory was involved, there was no point in having classes, day or night.
2. In most trades there were many men to whom theory was of no value, for they performed mainly routine tasks under the direction of foremen. Technical classes could not improve their competence.

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12. Appendices to the Journals of the House of Representatives, 1945, H.11(b), p. 15.

3. Increase in competence through classes in theory was to the boy's own advantage, and not to the employer's. Boys should not therefore seek their own advancement in their employers' time.
4. Things should not be made too easy. Study in their own time helped to develop character.
5. New Zealand tradesmen were competing on equal terms with skilled workers from other countries including those in which daylight training was carried on.
6. The normal five year apprenticeship term was less, in actual working hours, than twenty years previously and it was necessary for a boy to spend the whole of his time in the workshop to gain the requisite practical experience to make him a tradesman. 13

Those in favour of daylight training, mostly trade union representatives and teachers, based their case on the grounds that:

1. Technical training, as distinct from practical training was necessary to make sure that apprentices became competent tradesmen and the greater competency of the tradesmen was of advantage to the employer.
2. Day training at school was effective, whereas evening classes, after a day's work were largely wasted on tired boys.

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13. Ibid., p. 11.

3. Daylight training was used with advantage in other countries. <sup>14</sup>

After hearing this evidence the Commission decided that provision for daylight training should be included in apprenticeship orders. It recommended that:

Each Dominion Apprenticeship Committee consider, as soon as possible,

- (a) whether or not daylight training is necessary in its trade;
- (b) the method of introducing it; and
- (c) what time must elapse before the necessary arrangements can be made with the education authorities. <sup>15</sup>

The Commission believed that the present Act should be amended to make it clear that such provisions may be included in apprenticeship orders. In making this recommendation, the Commission pointed to overseas practices in this direction and indicated that if New Zealand industries were to keep up with the tremendous industrial developments overseas, they must adopt practices which had proved successful elsewhere.

These recommendations of the Commission were later put into effect through the 'Apprentices Amendment Act 1946', and were included in the 'Apprentices Act 1948',

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14. Ibid.  
15. Ibid.

which consolidated previous legislation relating to apprenticeship.

The functions of the New Zealand Apprenticeship Committees expressed in the 'Apprentices Act 1948', and which are directly applicable to the education of apprentices, are as follows:

Section 6 (d). To give consideration to what pre-requisite education, if any, should be laid down for apprentices wishing to enter the industry.

6 (e). To co-operate with the Department of Education for the purpose of ensuring that apprentices obtain the maximum amount of educational training.

6 (f). To give consideration to the question of the introduction of educational training during normal working hours and whether it is desirable and practicable.

6 (g). To give consideration to the question of the introduction of a practical test for each apprentice before the completion of his apprenticeship. 16

During the debate on the 1946 Apprentices Amendment Bill in the House of Representatives, further objections were made to the proposal of daylight training. W. Sullivan (Bay of Plenty) believed that to enforce

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16. 'Apprentices Act, 1948' New Zealand Statutes Reprint 1908-57, Vol. 1., p. 273.

compulsory daylight training would not help to increase the number of apprentices in New Zealand. 17

Other speakers were concerned with the difficulties which would be involved in implementing the scheme. W.J. Polson (Stratford) said:

The schools are not nearly well enough equipped to take in a much larger number of apprentices and carry on their training ... We have insufficient equipment and far too many lads for the equipment we have; also, we have too few buildings in the time available for this training. 18

W.A. Sheat (Patea) agreed with this, and said:

It becomes increasingly apparent that by passing this legislation we are committing ourselves to very considerable expenditure on buildings, equipment, and staff for colleges and institutions throughout the Dominion. 19

The compulsory vocational education of apprentices was gradually brought into being, following the setting up of Apprenticeship Committees. The first Apprenticeship Committee to function was that of the New Zealand Motor Trade, and by the end of 1950, twenty-three Dominion Apprenticeship orders had been made with eighteen of them making reference to daylight training. In addition

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17. New Zealand Parliamentary Debates, Vol. 273,  
p. 764.  
18. Ibid., p. 758.  
19. Ibid., p. 761.

some orders made provision for compulsory evening classes, and in cases where attendance at a technical school was not possible, enrolment with the Technical Correspondence School was ordered.

The effect on the technical schools of compulsory attendance at day or evening classes for apprentices, was twofold. Firstly, the provision of vocational classes for apprentices, meant a very large increase in that part of the work of the schools and created further accommodation problems despite earlier warnings on the need for adequate buildings and equipment. Temporary accommodation was used in many centres to overcome the problem, but much of this was unsatisfactory. Wellington Technical College claimed in 1950, that the old stable building being used for plumbing and welding classes was "the worst building used for educational purposes in New Zealand." 20

The increase in vocational work in the major technical colleges lessened considerably the dominance of the technical high school functions which had been apparent for a number of years. The Minister of Education, R.M. Algie, reported:

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20. Harrison, op. cit., p. 119.

TABLE V

Numbers of Full-time Technical High School Pupils and Part-time Pupils Attending Technical Schools in the Larger Centres.

School	1927		1937		1942		1947		1952		1957	
	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time
Auckland Technical School	872	1302	1359	2354	1403	1499	1134	3001	1093	3638	971	4928
Wellington Technical School	629	1867	852	1776	900	1114	1159	2215	1040	2222	941	2919
Christchurch Technical School	903	1938	1176	1714	1230	1369	1013	2120	880	2712	1014	2538
Dunedin Technical School	585	1248	695	1375	634	980	803	1309	1069	1981	1163	2124
Invercargill Technical School	426	442	645	430	505	403	706	436	671	674	900	854
Totals	3415	6797	4727	7649	4672	5365	4815	9081	4753	11227	4989	13363
Full-time High School Pupils as Percentage of Part-time Pupils	50%		62%		87%		53%		42%		37%	

NOTE I - The very high percentage of High School Pupils to Part-time Pupils in 1942 is in a large part due to war conditions prevailing at that time.

The technical schools of New Zealand were for many years dominated by their high school functions and the technical school section consisted mainly of continuation and elementary vocational classes. A marked change is now taking place but it is not likely to be complete for some years. The demand for the training of apprentices has brought large numbers of new students both by day and night. 21

The increase in the numbers attending part-time day and evening classes, and the changing importance of this work compared with the high school functions of the technical schools can be seen in Table V (facing).

The second effect of compulsory attendance of apprentices at day or evening classes was the removal of the need for purely vocational instruction for intending apprentices while they were attending the technical high schools. While technical courses had never been purely trade courses they did have a vocational purpose, which was now less necessary. This effect reinforced the effects of the changes brought about in the curriculum of the schools through the changes in examinations and in administration and resulted in an even greater similarity in the courses provided by

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21. Appendices to the Journals of the House of Representatives, 1951, E.1, p. 4.

the secondary and the technical schools, which by 1950 were indistinguishable in all but a few cases in their day school functions.

Underlying both the changes in apprenticeship and the effects these had in the schools, was the tremendous upsurge in technological development which came about through World War II. It was this which helped to convince employers that education was necessary for their apprentices, overcoming earlier resistance to such development.

Another of the recommendations of the Commission of Inquiry into Apprenticeship and Related Matters which directly concerned education, was that "the Education Department's Technological Examinations should be revised and more extensively used." <sup>22</sup>

Up until 1928, the London City and Guilds Examinations had to be used by those desiring certificates of recognised standing in their particular trade. These, however, were inconvenient for New Zealand students because entries had to be made at the very beginning of a New Zealand school year, and the examinations fell in the middle instead of at the end

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22. Appendices to the Journals of the House of Representatives, 1945, H.11(b), p. 15.

of the year. In 1928 the Education Department instituted technological examinations for plumbing, electrical wiring, carpentry, joinery, building construction, cabinet making, painting and decorating, electrical fitting, motor mechanics, and mechanical engineering. In other subjects where the Department held no technological examinations, the City and Guilds examinations continued to be used.

The technological examinations comprised three grades, preliminary, intermediate and final, and were maintained at approximately the same standard as the City and Guilds Examinations. The instruction work for these examinations was provided by the evening technical schools.<sup>23</sup> The examinations were not very popular and the numbers taking them were small. Nicol sets out three reasons which the principal of the Wellington Technical College, R.G. Ridling, gave for the unpopularity of the examinations. These briefly are:

- (1) The influence of the City and Guilds examinations remained, as they were recognised throughout the Empire. The New Zealand examinations were not.

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23. John Nicol, The Technical Schools of New Zealand (N.Z.C.E.R., 1940), pp. 211-12.

- (2) There was no general standard of attainment in every trade. In some trades the technological examination was of a higher standard than that required for registration in the trade, and students seldom became candidates.
- (3) There was no general demand by the trade that would encourage apprentices to try to qualify. <sup>24</sup>

During the war years the Department held no technological examinations at the preliminary or intermediate stages, schools being allowed to accredit candidates in the various subjects at these stages.

As a first step in carrying out a revision of the technological examinations, the Education Department, towards the end of 1946, set up a Consultative Committee, under the Chairmanship of the Chief Inspector of Post-primary Schools, E. Caradus, to inquire into these examinations. The Committee included six representatives of various industrial organisations, three members nominated by the New Zealand Technical School Teachers' Association, and two other representatives of the Education Department. The Committee completed its work on the 1st October, 1947. It recommended the setting up of a National Trades Certification Board under the joint

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24. Ibid., p. 213.

authority of which, and of other examining authorities (either the Education Department or other established New Zealand examining body), there should be a series of National Trades Certificates in each trade in which there is a reasonable demand. 25

Other recommendations relating to the functions of this National Trades Certification Board and its constitution were also made by the Consultative Committee.

A Bill incorporating the Consultative Committee's recommendations, was considered by Parliament in 1948. The resulting 'Trades Certification Act 1948' provided for the setting up of a Board, whose main functions were:

- (a) To make provision for the examination of persons practising or intending to practise any trade, who desire from time to time to present themselves for examination.
- (b) To grant or issue, either independently or in conjunction with any other examining body, diplomas or certificates to any such person in recognition of his proficiency in any trade, or in any art, science, or matter relating to any trade. 26

In December, 1948, Caradus, who had retired as

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- 25. Appendices to the Journals of the House of Representatives, 1948, E.2, p. 19.
  - 26. 'Trades Certification Act 1948'  
New Zealand Statutes Reprint, 1908-57, Vol. 15,  
p. 847.

Chief Inspector of Post-primary Schools, was appointed Chairman of the Board. After nominations had been called from the organisations concerned, additional appointments were made, broadly representing trade, industry, and technical education, and including the Commissioner of Apprenticeship.

Some extent of the success of the Board can be judged from the numbers of candidates for its examinations during the first few years of its operations.

TABLE V I 27

Numbers of Candidates for  
Trades Certification Board Examinations

Year	No. of Trades	No. of Separate Examination Papers	No. of Candidates
1949	1	6	1355
1950	5	16	1978
1951	9	33	2594
1952	14	57	3070
1953	16	74	3989
1954	18	101	4395

27. E. Caradus, 'New Zealand Trades Certification Board', Post-Primary Teachers' Journal, Vol. IV, No. 1, November, 1954, p. 21.

During this period the Board co-ordinated its work with existing Boards such as the Motor Trade Certification Board and extended its examinations to trades not previously covered by their own examining authorities.

In general the Board arranged a series of three examinations which were taken during apprenticeship and which culminated in the award of a Trades Certificate, or, in some cases, an advanced Trades Certificate. The examinations, the syllabuses of which formed the courses of instruction, provided an incentive for apprentices who attended day and evening classes in increasing numbers. As the Board increased its activities there was a corresponding decrease in the number of technological examinations conducted by the Education Department.

A further recommendation of the Commission of Inquiry into Apprenticeship and Related Matters was implemented early in 1946. This read: "There should be an extension of correspondence courses in technical education for the benefit of country apprentices."<sup>28</sup> The intention was to provide in some way for apprentices

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28. Appendices to the Journals of the House of Representatives, 1945, H.11(b), p. 16.

in country districts where there were insufficient numbers to warrant a class in any particular subject.

Correspondence courses in carpentry and joinery, building construction, and brickwork were started in 1939 by the Wellington Technical College. In the following years, more subjects were added and the school co-operated with the Army Education and Welfare Service in preparing correspondence courses for men in the armed services.<sup>29</sup> After the war, this new section had grown so rapidly, that on the 1st July, 1946, the Education Department took over the responsibility for these courses.

A Technical Correspondence School was established to develop the courses for men in the Armed Services and also to provide correspondence instruction in vocational and technical subjects for apprentices and advanced students, who could not attend technical schools.

The premises for the new school were temporary buildings adjoining the Wellington Technical College. Because of difficulties experienced in obtaining qualified staff, a number of the teachers from the College were shared in the initial stages with the

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29. Harrison, op. cit., pp. 110-11.

Correspondence School. <sup>30</sup>

The principal of the School in its early years, until his death in 1950, was Dr. John Nicol, well known for his book 'Technical Schools of New Zealand', which provides a full account of technical education in New Zealand up until the second World War.

With the increased interest in apprentice training brought about by the 'Apprentices Act 1948' and the 'Trades Certification Act 1949', the Technical Correspondence School expanded its courses and the roll grew rapidly. By 1949 the largest groups of students undertaking courses through the school were motor trade apprentices, electrical trade apprentices and Army students wishing to qualify for promotion. Other groups included survey cadets, engineering cadets, building trade apprentices and adult students of agriculture and horticulture. By 1950, 45% of the roll were trade apprentices and by 1951, of a total roll of 1300, over 800 were apprentices taking courses in eight different trades. Table VII shows the rapid increase in the numbers of students undertaking correspondence courses during this time.

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30. Appendices to the Journals of the House of Representatives, 1947, E.2, p. 18.

TABLE VII

Technical Correspondence School  
Roll Increases year to year

	<u>Students</u>
March 1947	615
December 1947	673
December 1948	765
November 1949	933
September 1950	1064
October 1951	1300
October 1952	1426

By April, 1959 the roll of students, of whom about two-thirds were apprentices, stood at 3,840. The teaching staff numbered seventy.

During these years, the school came to fulfill three functions. It provided educational facilities in courses where a sufficient number of students could not be assembled in one centre; it provided courses alternative to evening classes, in order to cater for students living more than a reasonable distance from a centre where a class was provided; and it produced textbooks suitable for use in New Zealand where trade practices often differ from those set out in textbooks

published in the United Kingdom. Through these functions, the school has come to form a valuable part of the technical education system in New Zealand and has gone far in providing the means for equal educational opportunity. <sup>31</sup>

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31. B.C. Lee, 'The Technical Correspondence School of the Department of Education', The Year Book of Education, 1960, pp. 511-16.

## CHAPTER V

### TECHNOLOGISTS AND TECHNICIANS

By the early 1950's the technical schools had been given responsibility for assisting in the training of apprentices in a number of different trades, but a further need that was becoming increasingly apparent was for more and better trained personnel in industry.

Developments here must be seen in relation to economic developments which were taking place in New Zealand. The vulnerability of New Zealand's economic system, based on the sale of primary products overseas, was evident during the depression years of the early 1930's and following the depression the new Labour Government aimed at reducing New Zealand's dependence on the overseas market. Local industry was encouraged where it could operate with reasonable efficiency. 'The Industrial Efficiency Act, 1936' aimed at:

The promotion of new industries and greater efficiency in existing ones while it gave power to the Minister of Industries and Commerce to regulate particular industries by a system of licences. 1

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1. J.B. Condliffe and W.T.G. Airey, A Short History of New Zealand (Whitcombe and Tombs Ltd., 1953), p. 226.

Import Control was established at the end of 1938 and the amount and type of imports permitted was related to what could be produced in New Zealand. This policy was aimed not only at the expansion of industry, but also at greater co-ordination to "secure a balanced development of the country's resources, material and human." <sup>2</sup>

The second world war gave further impetus to the development of secondary industries, with the result that the number of people engaged in factory industry (excluding building, transport and communications) rose from 86,588 in 1935-6 to 140,267 in 1947-8, and the volume of production increased by over 86%. <sup>3</sup> At the same time both the proportion and the actual numbers engaged in farming decreased and more workers were employed in factories than on farms.

Industrial expansion in the early 1950's was assisted by high levels of export prices, capital development and demand. Not only more jobs, but also new varieties of jobs, were being offered by manufacturers. Some of the occupations listed in the 1956 census which did not appear in the 1936 census, included pulp, paper

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2. Ibid.

3. Ibid., p.227.

and paperboard manufacture, chemical timber treatment, plywood and veneer manufacture, the manufacture of tyres and tubes, pharmaceutical preparations, and many more.<sup>4</sup>

In addition, tremendous developments were being made in the transport and communications field and the farming industry was relying more on mechanisation and improved methods to enable more efficient production. The need for new types of machines and the increasing complexity of the machinery being developed, made it clear that an increasing number of trained personnel would be needed if the country was to keep up with world trends in industry and maintain the standard of living that had been achieved.

Throughout the world technological advance was creating a demand for skilled personnel to develop new techniques and operate new machinery. In England, Sir Anthony Eden said:

The prizes will not go to the countries with the largest population. Those with the best systems of education will win. Science and technical skill give a dozen men the power to do as much as thousands did fifty years ago. Our scientists are doing brilliant work.

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4. M.J. Moriarty, Submission to the Commission of Inquiry into Vocational Training in New Zealand (Industries and Commerce Department, June, 1965), pp. 3-4.

But, if we are to make full use of what we are learning, we shall need many more scientists, engineers and technicians. <sup>5</sup>

Yet, in New Zealand, the basic structure of the institutions, at both university and technical school level, that were responsible for training for the higher levels of industry, remained substantially what it was a quarter of a century before. <sup>6</sup> Clearly, extensions in the New Zealand education system were needed in order to provide the necessary training for future technologists and technicians, and the most significant changes during the 1950's were brought about by the engineering industry which was one of the first in New Zealand to recognise the need for advanced and technical training to ensure continued technical progress and expansion. <sup>7</sup>

The report of the Minister of Education to the House of Representatives for 1955, defined technologists as:

Practical scientists whose basic training will usually be taken at a university or an institution of comparable status, and who will, in some cases, have to follow

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5. Appendices to the Journals of the House of Representatives, 1956, E.1, pp. 5-6.
  6. C.E. Beeby, "Education in Technology", Training for Technology in New Zealand (Wellington: Printed by Whitcombe and Tombs Ltd., 1956), p. 31.
  7. Moriarty, op. cit., p. 4.

this up with post-graduate study or research in a specialised field. <sup>8</sup>

Another widely-accepted definition, given in the British White Paper on Technical Education (Command Paper 9703 February, 1956,) was:

A technologist has the qualifications and experience required for membership of a professional institution. Most university graduates in engineering and other applied sciences, and a good proportion of holders of Higher National Diplomas or Certificates or similar qualifications become technologists.

A technologist has studied the fundamentals of his chosen technology and should be able to use his knowledge and experience to initiate practical developments. He is expected to accept a high degree of responsibility and in many cases to push forward the boundaries of knowledge in his own particular field. <sup>9</sup>

The first section of this definition was omitted in the definition given in a report adopted by the Engineering Faculty of the University of Auckland. In this report it was felt that the section was unnecessary and created, rather than removed, confusion. The report said:

It is true that a technologist has the

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8. Appendices to the Journals of the House of Representatives, 1956, E.1, p. 7.
9. G.A. Currie, "The Role of the University", Training for Technology in New Zealand (Wellington: Printed by Whitcombe and Tombs Ltd., 1956), p.1.

qualifications and experience required for membership of a professional institution. As a definition, however, this statement is not sufficiently exclusive. 10

This comment underlined the difficulty in deciding what occupations could be classed as technologies and the extent of the training needed for any technology, and it was a difficulty which had an important bearing on how and where training for technologists should be provided. It raised the problem of the status of the University and the Technical Colleges and the part that each had to play in training for industry.

Prior to 1950 the University Schools of Engineering and the School of Mines made the major contribution to the training of technologists. However, after the war, the technical schools provided rehabilitation courses in many fields, including professional engineering, where courses prepared part-time students for the Associate Membership Examinations of the British Engineering Institutions. These are commonly referred to as A.M.I.X.E. courses.

In 1948, a Consultative Committee had been set

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10. University Policy for Technological Education in Engineering and Related Fields - A Report adopted by the Engineering Faculty of the University of Auckland, July, 1960, p. 8.

up to consider the education, training, and supply of professional engineers. The Chairman was E. Caradus O.B.E. (Formerly Chief Inspector of Post-primary Schools) and the committee consisted of representatives of the Education Department, the University of New Zealand, the New Zealand Secondary Schools' Association, the Engineers' Registration Board, the New Zealand Technical School Teachers' Association, and the New Zealand Institution of Engineers.

One of the tasks of the Committee was to ascertain to what extent, if any, instruction in professional engineering subjects should be provided in technical schools.

On this question, the committee said:

While there is a weight of evidence that ultimately all civil and electrical engineers, at least, should be graduates, the Committee realises that for some years it will still be necessary to train a proportion of professional engineers by means of courses leading to diplomas in professional engineering. It will therefore be necessary to provide facilities for instruction in the subjects of these examinations in certain of the technical schools. 11

By 1954, however, with the increasing complexity of engineering science, doubts had arisen as to the

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11. Appendices to the Journals of the House of Representatives, 1949, H.39. p. 67.

wisdom of allowing technical schools to continue their training of professional engineers. A committee sponsored by the Education Department and representatives of the New Zealand Institution of Engineers, the University, the Technical Schools, Government Departments employing engineers, and the Engineers' and Assistants' Association, decided that all candidates for professional engineering should take a University degree. It was agreed that technical colleges should, in the meantime, continue with the courses that they had been providing as preparation for the A.M.I.X.E., but there would be no increase in facilities for these courses, and with the growing difficulty of the examinations, the number of successful candidates would probably decrease.<sup>12</sup> The Committee further recommended that the main efforts of the technical colleges should be devoted to developing courses for the 'middle group' engineers and on the preparation for the New Zealand Certificates in Engineering.<sup>13</sup>

In engineering, then, the position of the University and the Technical Colleges was fairly clear, but this could not be said of other fields such as the

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12. Beeby, op.cit., p. 33.

13. Ibid.

timber, building, and food processing industries where technological training was required, but where, at that time, no training was given at the University level. <sup>14</sup>

There was doubt as to whether all technologies should be catered for at the University, whether special training institutions should be set up for the purpose, or whether training should be left to the technical colleges.

The University's position was set out in an address to the senate of the University of New Zealand by the Vice-Chancellor, Dr. G.A. Currie. After discussing the position in other countries, he said, "The University of New Zealand walks the middle of the road offering both strictly academic courses and some with practical application." He recommended:

We should stay in that position, demand a somewhat higher standard of entrance than we do at present, but keep our minds open for the development of courses which may have elements of technical education in them provided they have a sufficient body of knowledge and training to warrant recognition as university courses. <sup>15</sup>

The Minister of Education agreed with this point of view. He said:

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14. Appendices to the Journals of the House of Representatives, 1956, E.1, p.12.  
 15. Currie, op. cit., p. 13.

It is a delicate matter to decide at any moment whether a particular occupation really requires a University training as its minimum qualification or whether its needs can best be met at a technical college. The distinction between the professional man or technologist, on the one hand, and the technician on the other is by no means as clear in practice as it might appear in theory, and it may be necessary for the University and the technical school authorities, in conjunction with the industry concerned, to argue out each case on its merits. 16

This was the action that had been taken on an application from pharmacists to the University Senate to have established a University School of Pharmacy, leading to a diploma in Pharmacy. In 1955 the University Senate had set up a committee to consider what part, if any, the University should play in the training of pharmacists. The committee decided that for the majority of trainees in pharmacy, a course could more properly be started in a technical college. The Senate agreed with this view, but it decided on the recommendation of the committee, to institute a degree course in pharmacy for the small number of pharmacists who might require the higher qualification for special kinds of work.

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16. Appendices to the Journals of the House of Representatives, 1956, E.1, p. 12.

This policy, however, created uncertainty as to where and how technological training would be carried out, and this hindered to some degree, the development of higher technical training.

The Committee on New Zealand Universities reported in 1959:

It seems clear that the Universities have not yet sufficiently recognised that, in addition to teaching pure sciences, there is a great need to teach how to 'apply' these to manufacturing processes. 17

To support this, the Report quoted from a submission by Dr. Llewellyn and Professor Packer of Canterbury, who said:

The University has not yet fully examined or collated its own functions in technological education, nor has it made any progress in determining the adequacy or otherwise of its existing courses for the training of technologists. The University has certainly not, to our knowledge, attempted to formulate any forward thinking policy of development of university technological education either on its own or in collaboration with the technical colleges. 18

The Report, however, reaffirmed "that the training of the professional technologist requiring the usual university qualifications should be done at the university,"<sup>19</sup>

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17. The Report of the Committee on New Zealand Universities, December, 1959 (Wellington: Government Printer, 1960), p. 84.  
 18. Ibid.  
 19. Ibid.

but made a number of recommendations aimed at improving the teaching of technologies in the Universities and achieving greater understanding of the respective responsibilities of the Universities and the Department of Education.<sup>20</sup> These recommendations are listed in Appendix A.

The Report gave as its reasons for continuing to base technological education in the Universities, the smallness of the New Zealand economy and the need to avoid a multiplicity of types of institutions.<sup>21</sup>

A report adopted by the Engineering Faculty of the University of Auckland in the following year gave further reasons:

Universities have, or should have of their very nature, well developed departments of science and mathematics. A technological course needs the fundamentals only these departments can provide. Further, the student of technology is certainly the better for being exposed to the questing outlook of the scientist. Again universities keep the student of technology in contact with the humanities, a factor increasingly important in an increasingly materialistic world...

In this country there are already well established universities; but no institutes of technology. Very

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20. Ibid., p. 85.  
21. Ibid., p. 83.

successful technological departments have been developed in universities, both in Britain and America. In the development of technological training in New Zealand there is no need to go beyond our university system. <sup>22</sup>

However, a number of people concerned with technical education today, hold other views. The Technical Institutes have developed tremendously and the principal of the Auckland Technical Institute, R.A. Keir, following a recent trip abroad, indicated that New Zealand should begin planning to extend Technical Institute courses towards first degrees in the fields of building, engineering, and applied science. Every country he had visited was developing tertiary technical education to this level and he felt that there was a field for this type of qualification in New Zealand. <sup>23</sup>

While there has been uncertainty about the training of technologists, the equally important task of training the 'middle group' or technicians, has been clearly established as the responsibility of the technical colleges.

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22. University Policy for Technological Education in Engineering and Related Fields, A Report adopted by the Engineering Faculty of the University of Auckland, July, 1960. p. 12.
23. 'The Auckland Star' 26 September, 1966.

Recognition of this group arose mainly from the creation of new specialist occupations and the need for men and women possessing a level of skill intermediate between that of the craftsman or operator and that of the qualified engineer or scientist,<sup>24</sup> but their work and the extent of the training required varies from occupation to occupation.

Technicians are defined in the Report of the Minister of Education, R.M. Algie, for the year ended 31st December, 1955, as:

Intermediate in training between tradesmen and technologists. They may, or may not, have taken a full apprenticeship in some trade, but they will almost certainly have a more immediately practical background than the technologist, and will have, in addition, sufficient knowledge of the mathematics and science related to their own specialties to enable them to take responsibility for applying accepted scientific principles in circumstances presenting no great degree of novelty.<sup>25</sup>

A more comprehensive definition, which was quoted by the Technicians Certification Authority of New Zealand in describing the qualifications and role of the 'middle group engineer', was one which had been

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24. J.T. Young, Technicians Today and Tomorrow (London: Sir Isaac Pitman and Sons Ltd., 1965), p. 1.
25. Appendices to the Journals of the House of Representatives, 1956, E.1, p. 8.

accepted overseas by the 'Conference on Engineering Societies of Western Europe and the United States' and by the 'Commonwealth Engineering Conference'. It read:

An engineering technician is one who can apply in a responsible manner proven techniques which are commonly understood by those who are expert in a branch of engineering, or those techniques specially prescribed by professional engineers.

Under general professional engineering direction, or following established engineering techniques, he is capable of carrying out duties which may be found among the list of examples set out below. In carrying out many of these duties, competent supervision of the work of skilled craftsmen will be necessary. The techniques employed demand acquired experience and knowledge of a particular branch of engineering, combined with the ability to work out the details of a task in the light of well-established practice.

An engineering technician requires an education and training sufficient to enable him to understand the reasons for and purposes of the operations for which he is responsible. 26

The Deputy Principal of the Auckland Technical Institute, C.L. Maloy, summarised the characteristics of a technician's post in a paper presented to the Auckland Branch of the New Zealand Institution of

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26. The Institution of Electrical Engineers. The Education and Training of Electrical Technician Engineers, A Report of the Joint Committee on Practical Training in the Electrical Engineering Industry, 1963, p.11.

Engineers in 1964. He said:

- (1) It should carry a measure of responsibility,
- (2) the occupant must have a level of scientific and technical knowledge greater than that required by a tradesman,
- (3) his education and training should be specifically organised for his adequate preparation,
- (4) his status must be recognised in industry and by professional engineers. 27

In New Zealand, prior to 1950, there was very little attention paid to this group and little or no provision was made for any training. There was no organised demand for the services of some types of technician and, because of this, the technical schools had not offered courses nor had they been asked for by students. In some cases, their place was being taken by men whose training was too theoretical and in others, by men who had qualified through a trade and who, in many cases, had had insufficient theoretical training. However, in the early 1950's, the scarcity of such personnel was becoming apparent and this was

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27. C.L. Maloy, The Education and Training of the Engineering Technician, a paper presented to the Auckland Branch, New Zealand Institution of Engineers, 21 October, 1964, p. 2.

winning for them recognition of their importance to industry.

Some evidence of the need for special attention to be given to the education and training of the technician was found by the Consultative Committee, set up to investigate the education and training of engineers in 1948. In this report reference was made to

a considerable body of men holding positions intermediate between those of tradesmen and those of professional engineers. Generally speaking, these people consist of two main classes - firstly, those with little or no academic qualifications, who by virtue of ability and long experience have achieved positions of considerable responsibility; and secondly, those who have set out to obtain a professional qualification but who have not succeeded in completing this qualification. There is also a third, and smaller, group with expert qualifications in a field which is considered too limited. It was at first considered that the Committee should provide some form of certificate for these men, but after taking evidence from some groups it became clear that the solution to the problems of these people would have taken a disproportionate amount of the Committee's time. 28

In 1952 the New Zealand Institution of Engineers issued a document, 'Engineering Education in New Zealand' which comprised a statement of the educational

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28. Appendices to the Journals of the House of Representatives, 1949, H.39, para.63. p.19.

policy of the Council of N.Z.I.E. in the form of five resolutions. Of these, the following two made reference to the 'intermediate group':

That this Institution considers it has a responsibility in the training, status and most efficient employment of technicians, engineers' assistants and similar sub-professional groups whose work is customarily done under the direction of professionally qualified engineers.

That the principle be endorsed of proper education and training for the intermediate group, and that a recommendation be made for necessary assistance to be granted to the major technical colleges to provide for the tuition of a sub-professional group. 29

In 1954 a meeting was called by the Director of Education of representatives of the New Zealand Institution of Engineers and of various organisations interested in the employment, welfare, training, and technical education of 'middle group' engineers. Discussion was held on the nature and level of examination qualifications needed, what support would be given to such qualifications by the groups represented, and where the courses should be available. The discussions between these groups were brought to a

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29. University Policy for Technological Education In Engineering and Related Fields, A Report adopted by the Engineering Faculty of the University of Auckland, July, 1960. p. 16.

satisfactory conclusion late in 1954 by the establishment of a new qualification for engineering technicians. The qualification was the New Zealand Certificate in Engineering and was to be administered by a controlling authority specially set up by the Government and serviced by the Department of Education. <sup>30</sup>

The controlling authority was chaired by the Assistant Director of Education and included representatives of the New Zealand Institution of Engineers, the Engineers' and Assistants' Association, the Technical Education Association, and the Department of Education. A University teacher in engineering was a co-opted member. Two grades of certificate were instituted: The lower one, requiring a four year part-time course, was for the New Zealand Technical Certificate (Engineering) and was biased towards practical subjects directly useful to an engineer in the middle group. The Senior one, the New Zealand Certificate of Engineering, required a five year part-time course. It included more mathematics and basic science and was less immediately practical in nature. For each type of certificate there were offered a number of options. After the first two

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30. Appendices to the Journals of the House of Representatives, 1955, E.1, p. 36.

years a student for the senior certificate was able to specialise in civil, mechanical, electrical, or telecommunications engineering. On completion of the senior course, further studies, leading to endorsement of the New Zealand Certificate of Engineering, were possible. The entrance qualification for the courses was School Certificate or its equivalent, and the courses were to be held in schools approved by the Controlling Authority. The larger technical colleges were given the responsibility of conducting internal examinations for the first, second, and fourth year senior courses and the Controlling Authority was to conduct external examinations for the third and final fifth year courses.<sup>31</sup>

In 1955 the Controlling Authority issued detailed syllabuses in several subjects and in 1956 the organisation of examinations, the registration of students, and the production of syllabuses in more specialised subjects, were carried out.

In the first year of operation (1955) there were very few candidates for the new courses, but the following year showed a large increase in the number of

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31. Appendices to the Journals of the House of Representatives, 1956, E.1. p.11.

entrants coming forward, and this increase emphasised the need which had developed for some qualifications in engineering at the sub-professional level. The demand for the certificates was further increased by the actions of some Departments of State, notably the Railways Department, in incorporating the certificates in their salary schemes and their employment policy. In his report for the year ended December 31st, 1956, the Minister of Education, R.M. Algie, expressed the hope that employers in general would encourage their employees to undertake courses for the certificates. He said:

The future of the Certificates and the training leading to them clearly depends upon the willingness of other employers to do likewise (i.e. encourage employees to take the courses as the State Departments had done) and upon the desire of young people to fit themselves for positions in the largely unexplored field that lies between the work of the tradesman and that of the fully qualified professional engineer. 32

By 1957 the work on syllabuses had been brought almost to conclusion and the Controlling Authority was in a position of being able to offer courses in all areas where a demand existed. In the following years the courses were kept up-to-date and additions were

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32. Appendices to the Journals of the House of Representatives, 1957, E.1, p. 33.

made as they seemed necessary. One notable addition, in 1959, was the introduction of television courses under the title 'Television Technology'. The first final examinations were held in 1958 and in April, 1959 the first five certificates were presented to successful candidates at a special ceremony held at the Central Technical College, Petone. <sup>33</sup>

The success of the scheme can be seen very well in the numbers of students registered for the Certificates in the first years of their existence.

TABLE VIII

Number of Students Registered For  
The New Zealand Certificates in Engineering

<u>Year</u>	<u>No. of Students</u>	<u>Increase over Previous Year</u>
1955	40 x	
1956	206	166
1957	660	454
1958	1120	460
1959	1604	484

x this figure is approximate

33. Appendices to the Journals of the House of Representatives, 1960, E.1, p. 46.

No legislation was passed when the Controlling Authority for the New Zealand Certificates in Engineering was set up because it had been felt that there might be a need to establish Controlling Authorities for other occupational groups and, to avoid overlapping between these Authorities, some co-ordination would be needed. The Minister of Education, R.M. Algie, reported to the House of Representatives:

What is being done for engineering could be done for other occupations, if the need for it were clearly demonstrated. It seems highly probably that well-trained technicians are needed, for example, in the building industry, in the timber industry, in food processing, in the hotel industry, in industrial management, and in printing and colour work. 34

However, in the early stages, the position was not clear and legislation was felt to be premature.

By 1957 other occupational groups, such as engineering and architectural draughtsmen, industrial chemists, and builders, were becoming interested in instituting schemes similar to that enjoyed by engineers and the problem of securing co-ordination between the different groups was examined in detail. The Education Department wished to make as much use as

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34. Appendices to the Journals of the House of Representatives, 1956, E.1, p.11.

possible of existing courses and syllabuses and it was felt that cross-credits could be established at the lower end of the courses. It also had to be decided whether co-ordination could best be achieved through a super-authority or a number of smaller authorities, each responsible for one occupational group. 35

A factor which became very prominent at this stage was the lack of co-ordination between the Education Department and those industries which had no organisation that could speak nationally for them. Though many individuals and smaller groups felt the need for further training, the demand was unorganised and difficult to gauge. This problem and the means which have been used to bring about greater co-ordination are of great importance, and will be discussed fully in a later chapter.

By 1960 negotiations between the New Zealand Institute of Draughtsmen and the Controlling Authority for the New Zealand Certificates in Engineering had led to an agreement on a scheme to provide New Zealand Certificates in Draughting. These were administered

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35. Appendices to the Journals of the House of Representatives, 1957, E.1, p. 33.

initially by the engineering Controlling Authority, to which was added a member nominated by the New Zealand Institute of Draughtsmen. A similar scheme for the education of Chemical Technicians was under discussion.<sup>36</sup>

Before anything further was done in this direction an important change took place. The Technicians' Certification Authority was formed (see Appendix B) and held its first meeting in July, 1960. The Authority was established under the 'Technicians' Certification Act, 1958', which was designed to give statutory foundation to the work carried out by the Controlling Authority for the New Zealand Certificates in Engineering. Under this Act the Technicians' Certification Authority was given the responsibility for the certification of technicians, with functions described in Section 8 of the Act as follows:

- (a) To establish Executive Committees for the purpose of this Act;
- (b) To co-ordinate the work of the Executive Committees so established;
- (c) To prescribe courses and syllabuses; and to conduct examinations for technicians; and to appoint examiners, moderators, supervisors, and assessors for the purposes of these examinations;

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36. Appendices to the Journals of the House of Representatives, 1960, E.1, p. 46.

- (d) To prescribe conditions for entry to such courses and to give exemptions where it considers it appropriate;
- (e) To approve schools as suitable to conduct such courses;
- (f) To grant or issue, either independently or in conjunction with any other examining body, diplomas or certificates to any person in recognition of his having successfully completed a course, prescribed under this Act. <sup>37</sup>

The Authority could delegate its work to Executive Committees, each of which was to be concerned with one occupation and was to consist of representatives of the occupational group, together with educationalists and representatives of the Certification Authority. (See Appendix B). This framework thus provided for any additional courses in the future.

The first chairman of the Technicians' Certification Authority was G.V. Wild, formerly chairman of the Controlling Authority for New Zealand Certificates in Engineering and sometime Assistant Director of Education.

By the end of 1960 two Executive Committees had been formed, one for engineering and draughting and one for building and architectural draughting. The inclusion

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37. 'Technicians' Certification Act 1958'  
New Zealand Statutes, 1958, Vol. 1, No. 51,  
 pp. 510-11.

of building resulted from a one day conference of representatives of the building and allied industries, held under the joint sponsorship of the Department of Education and the University of New Zealand, in February, 1960. After discussing the educational needs of technicians in the building industry, the conference resolved to ask the Minister of Education to set up an Executive Committee for Building. <sup>38</sup>

A special committee dealing with courses for chemical technicians was not given the status of an Executive Committee because of the probability of the formation of an Executive Committee for Science, which would cover this field. In the following year this probability became a reality when an Executive Committee for Science was formed. <sup>39</sup>

The four year courses for the New Zealand Technical Certificate had been designed to meet the needs of students requiring a lower grade course of a more practical nature. The subjects taken in the first two years were the same as for the full certificate, but thereafter the course became less academic. Several

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38. Appendices to the Journals of the House of Representatives, 1961, E.1, p. 18.  
 39. Appendices to the Journals of the House of Representatives, 1962, E.1, p. 22.

options were provided for the Technical Certificate in Civil Engineering to meet what were believed to be the requirements of Ministry of Works and Local Bodies. There had been, however, so few candidates for the Technical Certificate that in 1961 it was abandoned except in Automotive Engineering and in Welding, for which the Technicians' Certification Authority provided no alternative. <sup>40</sup>

In recent years courses have been extended and widened to provide for the needs of other industries. The New Zealand Certificate in Science has been extended to include physics and plant biology and courses for R.N.Z.A.F. boy entrants and civil aviation administration trainees have been arranged. A course for the Certificate of Competency in Garage Management has also been instituted. <sup>41</sup> This is a three year course, the second year consisting of three subjects prescribed and examined by the New Zealand Institute of Management. Admission to the course is limited to men of considerable experience in the motor trade. In 1965 the Authority

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40. B.W. Potter, Technician Training In New Zealand, a background paper presented to the Technical Education Association Conference, Nelson, October, 1966, p. 15.

41. Appendices to the Journals of the House of Representatives, 1963, E.1, p. 22.

introduced another three-year course, this time for the Radio Technicians' Certificate. The demand for this came from the Post Office, the Broadcasting Corporation and the Civil Aviation Department.<sup>42</sup>

A summary of the courses provided by the Technicians' Certification Authority by 1966 is as follows:

- (a) Five year courses leading to the award of a New Zealand Certificate in the options of
  1. Engineering: Civil, Mechanical, Electrical, Telecommunications, Refrigeration, Production, Plastics, Aeronautics. The first four are well established. The last listed are recent introductions.
  2. Draughting: Civil, Mechanical, Electrical, Telecommunications, Survey, Town and Country Planning, Architecture.
  3. Science: Chemistry, Physics, Biology, Geology, Metallurgy.
  4. Building.
  5. Quantity Surveying.
- (b) Four year courses leading to the award of a New Zealand Technical Certificate in
  1. Automotive engineering.
  2. Welding.
- (c) Three year courses in
  1. Garage Management, leading to a Certificate of Competency.

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42. Potter, op. cit., p. 16.

2. Radio, leading to a Radio Technicians Certificate.
3. Survey, leading to a Survey Technicians Certificate.
4. Civil Engineering, leading to an Engineering Technicians Certificate. 43

With technological education established in the Universities and technician courses established in the Technical Colleges, concern was felt for students, who after qualifying as technicians, wished to go on to higher study. In Britain such students could study at a recognised technical college for the London external degree in engineering, but no avenue was available in New Zealand.

The Report on University Policy for Technological Education recommended that

the University in consultation with the appropriate authorities should introduce a suitable scheme by which outstanding holders of the N.Z. Certificate in Engineering can proceed towards a B.E. 44

Later the University of Canterbury decided to admit to the second professional year of the Bachelor of Engineering course, students who had completed the

43. Ibid.  
 44. University Policy for Technological Education in engineering and Related Fields, A Report adopted by the Engineering Faculty of the University of Auckland, July, 1960, p. 29.

Certificate in Engineering with outstanding merit.  
The University of Auckland made a similar decision,  
but in its case, admission was to the first professional  
year. 45

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45. Appendices to the Journals of the House of  
Representatives, 1961, E.1, p. 19.

## CHAPTER VI

### EXPANSION AND DEVELOPMENT OF THE MAJOR TECHNICAL COLLEGES AND THE FORMATION OF TECHNICAL INSTITUTES

The developments described in earlier chapters meant changes of greater magnitude in the technical schools, particularly those in the main centres. Day class rolls increased when the leaving age was raised; evening class rolls gained increasing popularity with the developments in industry after the war; apprentices entered the schools both in the day and in the evening; and technician training commenced.

In 1944 the Minister of Education, H.G.R. Mason, indicated that in the Metropolitan areas some change would be needed in the technical schools, as they had outgrown their accommodation. He suggested that some form of division was needed, and with reference to the Auckland Technical School, he outlined possible ways that such division could take place.

He said:

It could -

- (a) Split into two schools of the same type as the present school in two different districts.

- (b) Split into a girls' general technical school and a boys' general technical school.
- (c) Permit one department to hive off as a specialised technical school serving all Auckland.
- (d) Split horizontally - as distinguished from the vertical splittings in (a), (b), and (c) - by cutting off Form 3 and Form 4 and building up the top of the school until it takes on the character of a technological institute. <sup>1</sup>

Ridling, Director of Wellington Technical College, had more definite ideas as to the future role of his college. He considered that its future lay as a technological institute catering for higher training in industry and commerce and he was concerned at the lack of planning for the future in education. Describing this as "human wastage", he indicated that, in future years, "this wastage is likely to be considerable for the demand for higher education cannot be satisfied." <sup>2</sup>

In 1948, Ridling led a New Zealand Delegation to a Unesco Conference in the Middle East. He later visited the United States of America and England, where

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1. H.G.R. Mason, Education Today and Tomorrow (Wellington: Government Printer, 1945), p. 36.
  2. Noel Harrison, The School That Riley Built (Wellington: Wellington Technical College, 1961), p. 116.

he studied developments in technical education.

When he returned he wrote a report stressing the ways in which overseas developments could be applied in New Zealand. He outlined a number of basic recommendations which aimed at reorganising technical education. He wanted to preserve the essential features of the high school while extending senior technical work. He proposed the establishment of a technological institute which would co-operate with industry in carrying out research work, and would train young men as practical engineers and scientists with a sound basis in theory. As technologists they would be on a par with university graduates.<sup>3</sup>

Ridling's report was presented to his Board of Managers who suggested that the Wellington Technical College should take responsibility for the development of a technological institute. This proposal, however, cut across the earlier recommendation of the 'Consultative Committee on the Education, Training and Supply of Professional Engineers in New Zealand', that all professional engineers should qualify by way of a university degree and was contrary to traditional

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3. Ibid., p. 117.

beliefs in this direction. Therefore, when the report was sent in 1950, to the Minister of Education, R.M. Algie, it met with no apparent result. Harrison wrote, "The Government showed no discernable enthusiasm or any apparent intention of accepting its proposals." <sup>4</sup>

As the pressure on the accommodation and equipment of the technical schools of the main centres further increased, Ridling's successor as Director of Wellington Technical College, E.G. Cousins, continued to press for detailed Government planning to avoid further overcrowding. He outlined proposals for a building programme which would relieve the existing situation at Wellington Technical College, and provide for senior students. <sup>5</sup> However, no immediate Government action was forthcoming, much to the disappointment of those who saw New Zealand as a developing industrial nation.

The result of the Government's lack of foresight was evident in 1960, when the Committee on New Zealand Universities reported rather regretfully:

If the technologies for the manufacture of these products (i.e. food processing, canning of fruit, vegetables, meat and fish, paper pulp and timber and other wood products; woollen textiles,

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4. Ibid.

5. Ibid., p. 121.

leather and other goods;) had been studied earlier in New Zealand and they had been developed under the pressure of economic facts and growing population, there is no saying how flourishing such secondary industries would have been by now. Such developments could have been facilitated not only by the availability of raw materials, but also, and at least equally, by the knowledge and resourcefulness of the people, and by the ability, enterprise, and technological expertise of individuals. <sup>6</sup>

Later the Committee continued:

We feel that New Zealand is not fully aware that one of the main causes of its lack of progress in the development of secondary industries is its tardiness in developing technological education. <sup>7</sup>

However, the continuing pressures on the major technical schools could not be denied for ever and eventually movement towards the establishment of technical institutes did come, but proposals by the Department of Education to institute these were on a less ambitious scale than those suggested earlier by Ridling. By 1955 the Department of Education was considering the advisability of establishing a National Technical Institute to cater for courses where the number of prospective students was small, or the work was of such a specialised nature that provision for it

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6. Report of the Committee on New Zealand Universities, December, 1959 (Wellington: Government Printer, 1960), p. 76.
7. Ibid., p. 77.

in more than one centre was not justified. This, the Department believed, would enable the existing large technical schools to provide courses on a local or regional basis, catering for trades and crafts in which relatively large numbers of people were employed.<sup>8</sup>

Against this proposal was the view that national needs could adequately be met by distributing national courses among the existing technical schools in the main centres. This, however, would have increased the burden on these schools, which were already struggling to keep up with the demand of local and regional needs.<sup>9</sup>

The establishment of a National Institute had a further advantage in that it would allow common use of specialised staff and facilities which would be impossible if these courses were spread through a number of schools.<sup>10</sup>

Uncertainty as to the extent of the courses needed arose, because, in many industries, the demand for training was unorganised and the Department believed that the establishment of a completely new institution was not warranted at that time. The situation was

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8. Appendices to the Journals of the House of Representatives, 1956, E.1, p.15.

9. Ibid.

10. Ibid., p. 16.

thought to be best met by an existing technical school, that could drop its local commitments as demand for national courses increased. <sup>11</sup>

The Hutt Valley Memorial Technical School was felt by the Department of Education to be well suited for the establishment of national courses. The annual report of the Department for 1955 said:

This technical school is centrally placed for national courses, is associated with industry and has good buildings, with a high proportion of specialist rooms. Further land in the area could be acquired for expansion or for the building of a hostel at some future time. <sup>12</sup>

This opinion was not shared in all quarters. The present principal of the Auckland Technical Institute, R.A. Keir, says of the buildings at the Hutt Valley Memorial Technical School:

These were, at that time, (1955) quite the worst of any of the large technical schools; furthermore they were on a small site that made it almost impossible to expand. <sup>13</sup>

In addition, the scheme as a whole was criticized at the Wellington Technical College, where it was felt that a better move would be the conversion of Wellington

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11. Ibid.

12. Ibid.

13. R.A. Keir, personal interview, December, 1966.

Technical College into a Technical Institute along the lines earlier suggested by Ridling.

The Department of Education, however, continued to hold the view that a National Technical Institute should be additional to existing schools which were best utilised in catering for local or regional courses. This policy was adopted after further discussions in 1956 and 1957 and it was decided that the Hutt Valley Memorial Technical College should become a Central Technical College and specialise increasingly in apprentice and technician courses, in which the numbers of students did not warrant more than one course for the whole of New Zealand.<sup>14</sup>

One such proposed course was for trainees in pharmacy. In 1955 a committee set up by the University Senate had decided that, for the majority of trainees in pharmacy, a course should be established at a technical college.<sup>15</sup> Following this decision, planning for a course was carried out by the Department of Education, in close co-operation with representatives of the Pharmacy Board of New Zealand, the Chemists' Service Guild, the British Medical Association, the Department

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14. Appendices to the Journals of the House of Representatives, 1958, E.1, p. 35.

15. Ibid., pp. 35-6.

of Health, and the Board of Managers of the Central Technical College, who gave specialised advice. Advice was also obtained from Dr. S.E. Wright, Associate Professor of Pharmacy in the University of Sydney, who spent a week in Wellington discussing the proposed course. <sup>16</sup>

The Government, in 1958, approved of the proposals to establish a School of Pharmacy within the Central Technical College. This course differed from anything previously offered in a technical college in New Zealand and represented another step forward in higher technical training, by becoming the first full-time, post-University Entrance course in a technical college in New Zealand. The course provided for two years full-time study for one hundred and fifty students. The first year of the course approximated that of the Medical Intermediate, and the second year was to be devoted to professional pharmaceutical subjects. <sup>17</sup> For the first two years a grant of £50 was available for students required to live away from home and otherwise unable to complete the course. After

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16. Appendices to the Journals of the House of Representatives, 1959, E.1, p. 40.

17. Ibid.

two years, the pharmacy students were to be treated in the same way as university students. <sup>18</sup>

The New Zealand School of Pharmacy opened on the 15th February, 1960, with a roll of 73 students and was accommodated in a building previously occupied by the technical high school, but modified to suit the requirements of the course. <sup>19</sup>

To enable the development of national courses at the Central Technical College a number of changes in administration and accommodation were needed. At the end of 1957 all courses for high school girls were discontinued. A new girls' school, which opened in the Hutt Valley in 1958, provided accommodation for the girls required to move. <sup>20</sup> In 1959 it was decided to divide the school into two parts. A separate principal was appointed for the technical high school section, which was at that time housed in prefabricated accommodation. It was decided to move this section of the school, as soon as possible, to a new site at Gear Island, Petone, where it would become a co-educational,

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18. Appendices to the Journals of the House of Representatives, 1960, E.1, p. 45.  
19. Appendices to the Journals of the House of Representatives, 1961, E.1, p. 18.  
20. Appendices to the Journals of the House of Representatives, 1958, E.1, p. 35.

multi-course post-primary school.<sup>21</sup> This shift took place at the beginning of 1963. The second part of the school continued to be called the Central Technical College and became the first technical college in New Zealand, apart from the Technical Correspondence School, to cater solely for students who had left post-primary school.<sup>22</sup>

In the light of changes in higher technical education and the establishment of a Central Technical College, the need for the continuance of the Technical Correspondence School, as a separate institution, was examined. The annual report of the Department of Education for 1958 said:

The growth cannot be allowed to continue indefinitely without a careful examination of the relation of the school to other senior technical colleges and of the possibilities of horizontal or vertical fission. It may be that the form of organisation that has served so well during the first 10 years or so of the school's existence is not equally suitable for the next 10.<sup>23</sup>

To assist in finding an answer to this, the Government sent the Superintendent of Technical Education

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21. Appendices to the Journals of the House of Representatives, 1960, E.1. p. 45.
  22. Appendices to the Journals of the House of Representatives, 1961, E.1. p. 17.
  23. Appendices to the Journals of the House of Representatives, 1959, E.1. p. 41.

and the Principal of the Technical Correspondence School, to Australia, to examine the organisation of technical correspondence courses. On their return they indicated that the system used in New Zealand was soundly based and

a decision was made to allow the New Zealand Correspondence School to continue to develop on its present lines. Accordingly it will not be divided and it will not be associated administratively with the Central Technical College. 24

Later, the Central Technical College was renamed the Central Institute of Technology and, under new legislation, which will be discussed in the next chapter, a Board of Managers with a Constitution quite different from a post-primary board, took control in February, 1963.

During 1963 the Technical Correspondence School changed its name to the Technical Correspondence Institute, but no change was made in its control.

Running parallel with the development of the Central Technical College, came changes in the major technical colleges. By 1955 it had become very evident in the main centres that changes were not only necessary, they were essential, if New Zealand was to

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24. Appendices to the Journals of the House of Representatives, 1960, E.1, p. 47.

take any advantage of technological development in its planning for the future. It was at last apparent that it was beyond the efforts of one principal to run successfully a large high school, and at the same time to plan the development of a senior technical institution to cater for the instructional needs of an increasing number of students in a widening variety of industries. The Principal of the Seddon Memorial Technical College, Auckland, in an address outlining the difficulties of running the College, said that the position of the principal was really that of a general manager. He pointed to the exacting duties of Heads of Departments to whom was delegated responsibility for supervision, counselling, teaching, teacher training, liaison with industry and discipline. <sup>25</sup>

Various ways of reducing the spread of the principal's energies were considered, but many difficulties were encountered with these possibilities. One solution was to appoint a headmaster or a vice-principal to supervise the high school work, <sup>26</sup> but as the ultimate responsibility still lay on the principal, this did not

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25. The New Zealand Post-Primary Teachers' Association Journal, Vol. II, No. 5 (June, 1956), p. 13.  
 26. Appendices to the Journals of the House of Representatives, 1956, E.1, p. 14.

completely solve the problem.

Another suggested solution was to separate completely the functions of the technical high schools from the senior work and appoint a principal for each. This suggestion brought with it further problems of accommodation and staffing. It was thought that the senior institution, because of its predominance of evening over day-time classes, could not justify the specialist staff and workshop facilities that would be needed without the high school day pupils.<sup>27</sup> The issues were confused by the differences and lack of understanding between the universities and the technical schools, which were mentioned in an earlier chapter.

These problems were, however, at last being recognised. In the report of the Department of Education to the House of Representatives for the year ended 31st December, 1955, technical education was discussed as a special topic, and particular reference was made to the changes necessary in technical education and the best means of carrying these out. The subsequent changes at the major technical schools differed from school to school, but their development

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27. Ibid.

has, in the main, followed similar lines.

At the Seddon Memorial Technical College, Auckland, by 1957, the accommodation position had become acute. The total roll of the College was 7,060, of whom 1,050 were technical high school pupils, 1,082 block course students, 1,395 part-time day students, and the remainder evening class students undertaking advanced studies. Two-thirds of the teaching strength was devoted to senior technical work. 28

The Department suggested to the Board of Managers of this College that they build, on their present site, a block large enough to accommodate the technical high school pupils, and use the existing building as the nucleus of a senior technical college. The two institutions, although sharing the same grounds, would be under separate principals, but would be controlled by one Board of Managers. This would enable the use of high school buildings and staff for evening classes where necessary. 29

This suggestion was accepted by the Board of Managers, who requested permission to build a new six storey block for the technical high school and to

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28. Appendices to the Journals of the House of Representatives, 1958, E.1, p. 34.

29. Appendices to the Journals of the House of Representatives, 1957, E.1, p. 32.

remodel the existing building as a 'polytechnic' catering for senior work. The possibility of establishing the technical high school on a completely new site was considered, but none could be found near the centre of Auckland, and meanwhile it was considered necessary to use the high school building to cater for the peak rolls of the polytechnic. However, the new building was planned to make it possible for the polytechnic to take it over at a later date if courses continued to expand as expected. <sup>30</sup>

The decision to split the two schools marked a major turning point in technical education in this country, as it provided the basis for similar development by other metropolitan technical colleges, to give a system of senior technical institutions, primarily adapted to the training of technicians and tradesmen.

In 1960 at Seddon Memorial Technical College, two principals, R.A. Keir for the polytechnic section and S.H. Lee for the technical high school, were appointed following the retirement of H.M. Scott, the previous holder of the combined position. <sup>31</sup> Constructional

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30. Appendices to the Journals of the House of Representatives, 1958, E.1, p. 35.

31. Appendices to the Journals of the House of Representatives, 1961, E.1, p. 18.

work on the new building began during the year. A physical division of the college was contemplated, but was found to be impossible until the new building was completed. Accommodation was taxed to the extreme and a factory adjoining the college was purchased to afford temporary accommodation. 32

By March, 1961, the Seddon Polytechnic had a roll of over 6,000 pupils and more than 50 full-time teachers were employed. In addition, about 200 part-time teachers were employed, mainly for evening work. In view of the continued rapid development of the polytechnic it was decided to house the day school on a new site and to give the polytechnic the full use of the old building and the new one which was nearing completion. 33 The site chosen for the technical high school section was in Motions Road, Western Springs, and an immediate start was made on building work.

In 1962 the name of the senior section was changed to the Auckland Technical Institute while the high school section retained the name Seddon Memorial

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32. Ibid.

33. Appendices to the Journals of the House of Representatives, 1962, E.1, p. 22.

Technical College. Early in 1963 the new six storey block for the Technical Institute was completed and was used during the day time by the high school pupils. The removal of the high school pupils from the main block, and the use of the new block during the evenings, greatly increased the accommodation available for the Technical Institute students and allowed some re-arrangement of facilities for day training. However, pressure of numbers was such that only through the use of temporary or prefabricated buildings was the Institute able to cater for the demand for training. <sup>34</sup>

In 1964 the high school pupils moved to the new site at Western Springs, allowing the Institute complete use of the Wellesley Street site. All vocational classes remained with the Technical Institute, which at this time came under the control of a new Board of Managers <sup>35</sup> provided for by legislation which will be discussed fully in the next chapter.

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34. Appendices to the Journals of the House of Representatives, 1964, E.1, p. 26.

35. P. Dickinson and H. Williams, "A Report on a Survey of the 1965 Enrolments at the Auckland Technical Institute" (Auckland: Joint Planning Committee of the Department of Education and the Board of Governors of the Auckland Technical Institute, 30 September, 1966), p. 2.

Developments at Wellington Technical College have been similar to those at Auckland. In 1961 discussions between the Department of Education and the Board of Managers of the College, led to the approval of a scheme for the division of the school into a technical high school and a polytechnic to commence at the beginning of 1962. Complete physical separation of facilities was impossible immediately, as the two schools had to share the existing building. <sup>36</sup> In 1963 a scheme was proposed by the Board of Managers of Wellington Polytechnic for the re-building of the polytechnic on land near the present buildings and the acquisition of land for later expansion. The Department of Education accepted these proposals and, by the end of the year, a large number of prefabricated buildings had been provided, action had been taken on a site development plan, and the acquisition of further land had been approved. <sup>37</sup> In 1964 a separate Board of Governors was formed, similar to that at Auckland.

By the end of 1962 at Christchurch Technical College, the time for division of the college into a

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36. Appendices to the Journals of the House of Representatives, 1962, E.1. p. 22.  
 37. Appendices to the Journals of the House of Representatives, 1964, E.1. p. 26.

polytechnic and a high school was fast approaching. In 1963 the Board of Managers submitted a plan for such a separation. This scheme did not meet with complete public approval, because of the proposal to move the day school to another site, but it was finally approved by the Government.<sup>38</sup> As a result, the technical section of the Christchurch Technical High School opened as the Christchurch Technical Institute on 1 February, 1965. The high school was combined with the Christchurch West High School to form Hagley High School.

In the same year, 1963, proposals were received from the Board of Managers of the King Edward Technical School, Dunedin, for a new engineering block. Attention at the same time was given to a possible future separation of senior and high school sections and, to this end, approval was given by the Department of Education for the purchase of a site for the future technical institute.<sup>39</sup> Separation was later approved to have effect from 1 February, 1966; the date for the establishment of the Otago Polytechnic.<sup>40</sup>

The need for technical institutes in the smaller

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38. Ibid.

39. Ibid.

40. Appendices to the Journals of the House of Representatives, 1966, E.1, p. 24.

cities was also under consideration. Land adjacent to the Hamilton Technical School was purchased by the Department of Education, to enable separation of the school at a later date.<sup>41</sup> Later, working drawings were prepared for the first stage of an institute and negotiations on the proposed separation led to a decision to allow separation at a lower load than had been considered previously to be the minimum.<sup>42</sup> With the tremendous demand for advanced technical work there seems little doubt that technical institutes will become established in a number of the smaller cities. Indeed, plans have been put forward for future technical institutes and these will be discussed later.

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41. Appendices to the Journals of the House of Representatives, 1964, E.1, p. 27.
42. Appendices to the Journals of the House of Representatives, 1966, E.1, p. 24.

## CHAPTER VII

### DIVERSIFICATION OF CONTROL

With the gradual rise of senior technical education and the changing scope of the work being done in the technical schools, some disquiet was evident as to the adequacy of the system of administration of the technical schools. There was a growing belief, particularly among those closely connected with technical education, that the placing of technical schools administratively on a par with other post-primary schools was detrimental to the development of senior technical work.

F.G. Spurdle wrote in 1956:

Industrially New Zealand is something of a back-water, but even she must in due course feel the full impact of modern technology and be compelled to adopt new processes in almost every field of enterprise. Will our technical schools be equal to the great responsibilities they will have to bear? Will they suffice to train the rising generation in these new directions?

One may be pardoned, perhaps, for harbouring a doubt. There are so many reasons for disquiet. A nationwide spirit of uniformity dogs our steps. Despite their special needs technical schools have so far been lumped together with other post-primary schools and subjected to such things as a uniform staffing schedule, a uniform system of incidentals grants, a uniform salaries

scheme, a uniform schedule of positions of responsibility, and a uniform scale of time allowances - all of them things administratively very neat and tidy, but professionally sometimes very frustrating. As a result technical education in New Zealand, when compared with its counterpart in other progressive countries, is not as well provided as it ought to be. <sup>1</sup>

He ends, however, on a happier note:

Signs of welcome change are now appearing. The office of Superintendent of Technical Education which had been allowed to lapse for some years has now been revived, and the Department is manifesting a steadily growing concern for technical education, matched with an equal desire to improve it. <sup>2</sup>

The re-appearance of the office of Superintendent of Technical Education was the first of a number of changes in administration and control which accompanied the development of senior technical work.

In the proposals to divide Seddon Memorial Technical College, Auckland, it had been left for one Board of Managers to administer both the technical high school and the polytechnic sections. By 1961 with the proposed physical separation of the two sections of the school and the differing needs of each section,

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1. F.G. Spurdle, 'Technical Schools', The New Zealand Post-Primary Teachers' Association Journal, Vol.11, No.8, (September, 1956), p. 1.
  2. Ibid., p. 2.

consideration was given by Departmental officers, existing boards of managers, and the Council for Technical Education, to the idea of establishing separate boards of managers for technical high school and senior sections of schools.

The decision to allow the establishment of separate boards was given legislative force through the 'Education Amendment Act 1961', which provided that:

(6) Notwithstanding anything in the principal Act, in any case where technical classes or courses of a special or advanced character are being provided in a technical school, being a school of which the sole control has been vested in a Board of Managers, to such extent that the Minister deems it desirable to recognise those classes and courses as a separate technical school, the Minister may, on the application of the Board of Managers, by notice in the 'Gazette', direct that from a date to be specified in the notice the sole control of those classes and courses as a separate technical school shall be vested in a separate Board of Managers, as for a technical school ... 3

The 'Education Amendment Act 1963' went further and recognised the divided senior sections of technical colleges as technical institutes. It also provided the means and conditions by which technical institutes

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3. 'Education Amendment Act 1961' New Zealand Statutes, 1961, Vol.1, No.56, p. 812.

could be established or disestablished and the regulations under which they would operate. It laid down that every technical institute should have a Board of Managers unless the Minister directed otherwise.<sup>4</sup>

Through this legislation senior sections of divided colleges were able to become completely separate in their control and were not under the control of a board of managers which had post-primary affiliations. Indeed, the constitutions of the boards that have been established to control technical institutes are quite different from those of post-primary boards. Taking the Auckland Technical Institute as an example, the Board of Managers was constituted as follows:

- (a) One member appointed by the Auckland City Council;
- (b) One member appointed by the Council of the University of Auckland;
- (c) One member appointed by the Auckland Branch of the New Zealand Institute of Architects;
- (d) One member appointed by the Auckland Branch of the New Zealand Institution of Engineers;
- (e) One member appointed by the Auckland Branch of the New Zealand Society of Accountants;

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4. 'Education Amendment Act 1963' New Zealand Statutes, 1963, Vol.1, No. 27, pp. 306-8.

- (f) Three members appointed by the Association of employers in local industries;
  - (g) Three members appointed by the Association of employees in local industries;
  - (h) Four members to be co-opted by the Board of Managers itself, if and when it thinks fit.
- (3) In addition the Superintendent of Education, Auckland, or his deputy, shall be an associate member of the Board entitled to be present at any meeting of the Board or of any committee of the Board, and to speak at the meeting; but he shall not be entitled to vote at any such meeting. 5

The Boards constituted for other technical institutes were similar, but contained a few variations to cater for different groups concerned with the individual institutes. At Wellington, provisions were made to include a scientist, a representative of post-primary schools regarded as contributory, and to ensure that a woman was always present on the Board. The Central Institute of Technology made provisions to include representatives of advisory committees, a representative of the

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5. The New Zealand Gazette, 30 July, 1964.  
No. 46. p. 1209.

Pharmacy Board, and the Director of Education. <sup>6</sup>

'The Education Act 1964' amended the title of governing bodies of Technical Institutes from 'Board of Managers' to 'Board of Governors', but did not alter their constitution. <sup>7</sup>

The titles to be used by the senior institutions which were being established, provoked discussion. The Department of Education wished "to avoid outmoded or pretentious names and at the same time to emphasise the separate and senior character of the work carried out." <sup>8</sup>

The terms 'polytechnic' and 'institute of technology' already being used, were considered by some commentators to be not entirely satisfactory.

The term 'technical institute', which was chosen, had been suggested in 1956 by Dr. C.E. Beeby, in an address to the Senate of the University of New Zealand. He said that this term should

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6. Dr. B.C. Lee, 'Address' (to the Technical Education Association). Report of 1964 Annual Conference to the Technical Education Association of New Zealand. p. 21.
7. 'Education Act, 1964' New Zealand Statutes, 1964 Vol. 2, No. 135, Sections 68-69, pp. 1092-93.
8. Appendices to the Journals of the House of Representatives, 1962, E.1, p. 22.

be reserved for a technical college that divests itself of all or most of its technical high school work, and concentrates on the education of technicians. Under New Zealand conditions it will almost inevitably have to continue with some apprentice training, and it will probably also develop some courses for technologists. <sup>9</sup>

The 'Education Amendment Act 1963' defined a technical institute as

a school established under this Part of this Act, or deemed to have been so established, which is either devoted solely to the provision of technical and continuation education, or provides such a volume of advanced technical education to warrant, in the opinion of the Minister, being designated as a technical institute; and includes any correspondence school so far as it is deemed to be a technical institute within the meaning of this Part of this Act. <sup>10</sup>

It is interesting to note that, although the term 'technical institute' is the definition used in the Act for this type of institution, the Wellington Polytechnic and the Central Institute of Technology have continued to use their former names. Since the passing of the 1963 Act, the term 'Otago Polytechnic' has been chosen for the institute at

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9. C.E. Beeby, "Education in Technology" Training For Technology in New Zealand (Wellington: Printed by Whitcombe and Tombs Ltd., 1956), p. 25.
10. 'Education Amendment Act 1963' New Zealand Statutes, 1963, Vol. 1, No. 27, p. 306.

Dunedin.

This use of different terms tends to cause confusion to the layman, who often wrongly assumes that the use of different names means a difference in function. It would be less confusing if all of the institutes were to use the title 'technical institute' and it is a pity that this was not insisted upon when the 1963 Amendment Act was passed.

Another most important change, which was made through the passing of the 'Education Amendment Act, 1963', relates directly to the meaning of the term 'technical' and shows very clearly how the use of this term has changed from pre 1940 days to the present time. In the Act 'Technical Education' is defined as

further education which is directly related to or in preparation for the trade or profession in which the pupil gains or expects to gain his livelihood. 11

In the 'Education Act 1914' the definition of 'Technical Education' was:

Instruction in the principles of any specified science or art as applied to industries, accompanied by individual laboratory or workshop practice, or

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11. Ibid.

instruction in modern languages, or in other such subjects connected with industrial, commercial, agricultural or domestic pursuits as are prescribed. 12

The significant difference is in the shift of technical education from the province of post-primary education to the province of 'further instruction', defined in the 1963 Amendment Act as

education provided for persons who have passed the school leaving age and are not enrolled for secondary instruction in any school; but does not include education at a University or University College of Agriculture or Teachers' Training College. 13

This change meant that technical work was no longer considered to be a part of a post-primary school's curriculum and in view of this, it was decided to eliminate the three groupings 'secondary schools', 'combined schools', and 'technical schools', used previously in referring to post-primary schools.

In the following year the 'Education Act 1964' dropped the term 'post-primary school', with its divisions, and reclassified all such schools as 'secondary'.

Every school (other than a private school) that was in existence immediately

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12. 'Education Act, 1914', The Public Acts of New Zealand, 1908-31, Vol. 2, p. 1056.
13. 'Education Amendment Act, 1963', New Zealand Statutes, 1963, Vol. 1., No. 27, p. 306.

before the commencement of this Act and was then a secondary school, technical high school or combined school shall be deemed to have been established as a secondary school under this Act. 14

These changes demonstrate how the emphasis in technical instruction has changed from general pre-vocational instruction to education related directly to the gaining of a livelihood and it shows clearly that educational policy on secondary education has been directed towards the establishment of multi-lateral schools providing a variety of courses which can be followed by more specific training in a specialised institution.

In 1964 the Technical Institutes (Staffing, Salaries, and Conditions of Service) Regulations 1964 (Code No. 1964/8), were issued. These introduced separate staffing schedules, salary scales, and conditions of service for technical institute staff. The term 'tutor' was introduced to mean

any person employed in a teaching position in a technical institute, and includes the Principal and the Deputy Principal (if any) of a technical institute. 15

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14. 'Education Act 1964' New Zealand Statutes 1964, Vol. 2, No. 135, Section 82(2).
15. New Zealand Statutory Regulations, 1964, Vol.1, No.2, p. 37.

The new regulations came into operation on the 1st February, 1964, after discussions had been held with interested organisations.

In 1960 representatives from the Auckland, Central, Wellington, Christchurch, and Dunedin technical colleges, and the Technical Correspondence School met with the object of forming a new body for teachers in the separated technical institutes.

In the following year the Association of Teachers in Technical Institutes was formed with members drawn from the Auckland, Central and Wellington Institutes.

Teachers at Christchurch and Dunedin supported the move, but as separation of these colleges was not imminent, they did not join at that time. The teachers at the Technical Correspondence School declined to join the new Association because they were doubtful as to whether or not they would be working under the proposed new conditions of service for the 'live' technical institutes and they felt that the New Zealand Post-Primary Teachers' Association, as a well established body, would be better able to make submissions on their behalf.<sup>16</sup> Consequently, they made a recommendation

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16. C.L. Maloy, Deputy Principal of the Auckland Technical Institute-personal interview.

to the New Zealand Post-Primary Teachers' Association that a special committee be set up to represent the interests of teachers likely to be affected by the changes. The New Zealand Post-Primary Teachers' Association subsequently set up a Polytechnic Matters Committee and when the State Services Commission decided that, for the meantime, the New Zealand Post-Primary Teachers' Association would be the organisation to represent the interests of teachers at technical institutes, the Polytechnic Matters Committee made representations to the Department of Education.<sup>17</sup> The Committee had reservations about a number of the Department's proposals and requested a review of the conditions of service and salaries at the end of twelve month's operation. This was agreed to by the Department.<sup>18</sup>

The Association of Teachers in Technical Institutes was recognised in 1964 by the State Services Commission as a Service organisation parallel with the Post-Primary Teachers' Association, to represent teachers in technical institutes. This was the final step in the movement of the technical institutes away from the post-primary school framework.

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17. New Zealand Post-Primary Teachers' Association Journal, Vol.10, No.7, (August, 1963), p. 8.

18. Ibid., No.10. (November, 1963), p. 23.

PART III

REVIEW

## CHAPTER VIII

### SOME PROBLEMS

Among the problems that have been encountered in the development of technical education over the past twenty-five years, those that stand out because of their continuing nature, are: achieving a satisfactory relationship between the needs of industry and the training given in the schools, obtaining sufficient suitably qualified teachers, and providing adequate accommodation.

#### Relations with Industry:

A problem which has recurred constantly is that of achieving a satisfactory contact between the needs of industry and the training given by the schools.

Nicol blamed trade apathy for lack of satisfactory relations between schools and industry in the years prior to 1940. He said:

It is a simple fact that all forward moves in New Zealand's system of technical education were inspired by educationists or individual enthusiasts; they did not come in response to demands made by industrial organisations. The great difficulty of Riley, Thomson, Mackie, Bickerton, and Hogben, was to carry the trades with them in their schemes for development. <sup>1</sup>

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1. John Nicol, The Technical Schools of New Zealand (N.Z.C.E.R., 1940), p. 214.

One important issue at this time was the conflict in beliefs on apprenticeship training. The ideas of La Trobe and Ridling have already been discussed, but employers were loath to agree to proposals made by these educators.

On the other hand, however, there was reluctance by some educators to accept moves designed to improve relationships with trade bodies. Many schools had Advisory Committees from various trades to keep themselves up-to-date with industrial needs and keep the interest of employers. These had been started in Wellington by Riley and La Trobe and had spread to other schools. In Auckland, however, the Principal of the Seddon Memorial Technical College, G.J.Park, wrote:

We consult with trades people whenever we require to do so, but we have not yet accepted the almost universal plan of having Advisory Committees ... my opinion has been that those who have been in technical education for thirty years, know much more about what is necessary than do members of trade committees. 2

S.G. Smith, a former Minister of Education, and Minister of Works, was probably close to the truth when he stated the problem as a difference in the points of view of industrialists and educationists:

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2. Ibid., p. 220.

The one views from a purely economic aspect of a quick profitable return, and the other from the social aspect which has due regard to the whole future relationships of the child to life ... Have we a sufficient urge, is the national necessity great enough to create a body of opinion which will sweep away disharmony and give a vision sufficiently wide to adopt the long view? 3

The Commission on Inquiry into Apprenticeship and Related Matters in 1944, recognised the differences that existed between trades' bodies and the schools.

The Report of the Commission said:

We have found that there is a good deal of misunderstanding among employers of the nature and purpose of the technical schools and of the work they are trying to do. That misunderstanding, amongst other things, has frequently led to a regrettable lack of co-operation between industry and the schools in the matter of the education of apprentices. We therefore suggest to the boards of managers of the technical schools that they should publicise the work of their schools, in order to make the public, and in particular the leaders of industry, more aware of what the schools are doing. 4

The recommendations of this body were aimed towards bringing about a greater understanding, but improvement was not immediate. In 1949 the Commissioner of Apprenticeship, H.C. McQueen, said at the annual

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3. Technical Education Association of New Zealand, Report of Annual Conference, 1937, p. 7.
  4. Appendices to the Journals of the House of Representatives, 1945, H.11(b), p. 10.

conference of the New Zealand Technical Education Association, that the feeling in apprenticeship committees was that the technical schools were out of touch with reality and that there was a lack of confidence by employers in the schools' ability to handle apprentices.<sup>5</sup> However, relationships between the trades and the schools did improve later, through the work of the New Zealand Apprenticeship Committees and the Trades Certification Board.

The Commission on Education in New Zealand, 1962 reported:

In the apprentice field the collaboration of school and industry at both local and national levels appears to be complete and effective. This is effected through the New Zealand apprenticeship committees, under the Chairmanship of the Commissioner of Apprenticeship, and the local committees, under the district commissioners. Education is only one of the interests of these committees, but the inclusion in each committee of a 'person conversant with education' gives the necessary liaison with the schools and the Department of Education.<sup>6</sup>

The problem did not end there, however. With the development of new and more diversified industries, the need for close co-operation between the schools and industry became more important. In well established

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5. New Zealand Herald, 6 October, 1949.  
 6. Report of the Commission on Education in New Zealand, July, 1962, (Wellington: Government Printer, 1962), p. 395.

industries, which were adequately organised to formulate their demands for technical training, there was little problem, but with newer industries the problem was far from simple.

In his report for the year ended 31st December, 1956, the Minister of Education, R.M. Algie, said:

At the technician level, the success of the New Zealand Certificates in Engineering is already justifying the close collaboration of the Department and the interested organisations over a period of years. With industries that are not so well organised to say with authority what they want of us, the task is by no means as simple. 7

With this problem in mind, the Technical Education Association suggested to the Education Department that a working party be formed to discuss technical education. This suggestion was put into effect and in June, 1957, representatives of industries and commerce, the boards of managers of technical schools, teachers, and the Education Department, met at Wallis House for a week. The working party discussed the relations between the education system and industry, and in particular, the ways in which the needs of industry and commerce could be assessed and made known to the schools and the Department. The meeting clarified the relations

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7. Appendices to the Journals of the House of Representatives, 1957, E.1, p. 35.

between industry and the schools and made the following recommendations to the Minister of Education:

- (1) That the Hutt Valley Technical College be made a central technical college to provide national courses.
- (2) That a committee be set up, representing the Education Department, the Technical Educational Association, and the Post-Primary Teachers' Association, to discuss the salaries and conditions of service in senior technical colleges.
- (3) That there be established a National Advisory Council for Technical Education, and that, as a preliminary to this, a two day national conference be held at which all interested organisations should be able to express their views on the need for more technical education and on the functions and constitution of the proposed National Advisory Council.<sup>8</sup>

The third recommendation, which was directly concerned with the improvement of relations between schools and industry, was acted upon immediately and arrangements were made for a conference to be held in April, 1958, with the object of forming a National Advisory Council for Technical Education.

This conference was the first attempt ever made to get together representatives of all the interests concerned with technical education. It was attended by

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8. Appendices to the Journals of the House of Representatives, 1958, E.1, p. 36.

representatives of employers, employees, the professions, and the schools, who were asked to consider whether industry and commerce were satisfied with the technical education that was being given, particularly at the technician level, or whether there were any unsatisfied needs, and secondly, whether the existing administrative framework was adequate to ensure that any needs were assessed, made known and met, and if not, whether a New Zealand Advisory Council for Technical Education should be set up.<sup>9</sup>

The conference decided that the existing administrative machinery was not adequate and recommended that a council should be set up. It went on to suggest the membership of the proposed council and to recommend that its duties should be to advise the Minister of Education on matters pertaining to education and training for employment in industry and commerce, and to foster closer relations between technical education and industry and commerce. It was thought that the council should be asked to consider the co-ordination of the work of senior technical colleges with the technological work of the Universities, and it should

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9. Appendices to the Journals of the House of Representatives, 1959, E.1, p. 39.

advise the Department of Education on the location of national courses, new or existing. <sup>10</sup>

The recommendations of the conference were accepted by Cabinet and late in 1958 the New Zealand Council for Technical Education was set up with the following membership:

- (a) A Chairman appointed by the Minister;
- (b) One Member to be appointed by the Minister on the recommendation of each of the following bodies:
  - (i) Department of Education;
  - (ii) Senate of the University of New Zealand;
  - (iii) Associated Chambers of Commerce;
  - (iv) New Zealand Manufacturers' Federation;
  - (v) New Zealand Employers' Federation;
  - (vi) New Zealand Institution of Engineers;
- (c) Two members to be appointed by the Minister on the recommendation of the Technical Education Association, one of whom shall be a principal;
- (d) Two members to be appointed by the Minister on the recommendation of the Federation of Labour;
- (e) The Commissioner of Apprenticeship;
- (f) Such additional members, not exceeding five, whom the Minister may appoint for a limited period on the recommendation of the Council to represent regional and special interests;
- (g) One member to be appointed on the recommendation of the Public Service Commissioner;
- (h) Three members to be appointed on the direct nomination of the Minister. <sup>11</sup>

The final provision was included to allow the

10. Ibid.

11. Technical Education Association of New Zealand, Report of Annual Conference, 1959, p. 50.

Minister to appoint any person who, because of qualifications or background, would be of use to the work of the Council. Recently amendments have been made to the terms of membership of the Council and these are listed in Appendix C.

The functions of the Council were:

- (1) To advise the Minister of Education on matters pertaining to education and training for employment in industry and commerce;
- (2) To make recommendations to the Minister of Education and to other interested bodies on topics;
  - (a) submitted for consideration by the Minister of Education;
  - (b) initiated by the Council;
  - (c) submitted to it by interested bodies or education institutions;
- (3) To foster close relations between technical education and industry and commerce and more particularly:
  - (i) to ascertain the needs of industry and commerce and of sections thereof for technical education;
  - (ii) to promote coordination between technical education, industry and commerce, workers' organisations, and government departments in various ways, including research, exchange of staff, provision of visiting lecturers, loans and gifts of equipment, consulting service to industry, advanced lecture courses and seminars;
- (4) To consider the coordination of the work of senior technical colleges and the technological activities of the universities;
- (5) To advise on location of new or existing national courses. <sup>12</sup>

Dr. R.W. Harman was appointed Chairman of the Council which held its inaugural meeting on 3rd October, 1958. The members of the Council at its inception are listed in Appendix D. During 1959 the Council met at about quarterly intervals and surveyed broadly the whole field of technical education.<sup>13</sup> An account of the matters discussed in this and following years is given in Appendix E. During 1960 and 1961 the business of the Council seemed to slacken off and some of the members felt that the Council was not making the contribution that it ought to have been, to technical education. In 1960 the departure of Dr. Harman to Australia had left the Council without a Chairman and J.L. Broun, a Council member, served as Acting-Chairman until the appointment of the new Chairman, T.J.F. Spencer, General Manager of Pye Limited, in August, 1961.<sup>14</sup> Under his guidance the Council re-examined its purpose and its functions in relationship to the Education Department and to the Minister of Education, and considered the means required to enable it to operate more effectively. As a result, a full-time officer,

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13. Appendices to the Journals of the House of Representatives, 1960, E.1, p. 44.  
 14. Technical Education Association, Report of Annual Conference, 1961, p. 44.

P. Dickinson, was appointed and designated 'Executive Secretary'.<sup>15</sup>

Since 1962 a great volume of work has been accomplished by the Council, with the following major highlights. In 1963 the Council examined the recommendations of the Commission on Education and their implications and emphasised to the Minister the importance of implementing these. (The recommendations are listed in Appendix F). In the same year the Council presented to the Minister a 70 page report which surveyed the existing state of senior technical education in New Zealand, estimated its growth, and made recommendations for development over a period of five years. This was done on a two-fold basis, involving estimates from a large number of schools and a sampling of the needs of industry.<sup>16</sup> More recently the Council undertook a survey of industry on the needs for training in Quality Control, at the request of the Minister of Education. The results of the survey showed that there was a sufficient demand to justify the establishment of a course in Quality Control and subsequently an experimental

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15. Technical Education Association,  
Report of Annual Conference, 1962, p. 40.
16. Technical Education Association,  
Report of Annual Conference, 1965, p. 40.

course was commenced at the Auckland Technical Institute.

The Executive Secretary of the Council reported:

The procedure adopted in this case may be a useful pattern to follow in the future to find out and satisfy quickly, newly emerging demands for technical education in industry. 17

The Council, in addition, has made a number of representations to the Minister and to the Department of Education on staffing in the technical section of the Department. It has urged the raising of the status of the Superintendent of Technical Education, and has discussed the establishment of a research and planning unit for technical education. 18

In 1962 the Council was successful in gaining Government approval for a sum of £2,500, to be set aside each year from the Commonwealth Education Scheme Funds, to enable four New Zealand technicians to be sponsored for training in Britain. The Council set up a small selection committee which drew up conditions of eligibility for the awards and advertised the scheme, which has attracted a large number of well qualified applicants each year and has proved most successful. 19

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17. New Zealand Council for Technical Education,  
24th Meeting, Paper No. 7.
18. Technical Education Association,  
Report of Annual Conference, 1965, p. 40.
19. Ibid.

Through its work the Council has given valuable help in resolving a number of problems which have arisen with the development of technical education and has drawn attention to long term problems. However, in much of its work, especially in connection with the surveys undertaken, it has been "handicapped by having no full-time staff, and by being purely advisory to the Minister of Education." 20

As a result a number of people have called for the formation of a permanent body with a full-time staff and wider powers than the New Zealand Council for Technical Education.

R.A. Keir has indicated that there is a need for some type of body that can speak more clearly and forcefully to Government about industry's training needs. 21

M.J. Moriarty, secretary of the Department of Industries and Commerce, in a submission to the Commission of Inquiry into Vocational Training in New Zealand, June, 1965, indicated that there was a need for

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20. Report of the Commission of Inquiry Into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 44.
21. The Auckland Star, 26 September, 1966.

the establishment of a permanent institution - an Institute for Vocational Training, whose task would be to carry out investigation and research, to assist in co-ordination, and to advise on programmes in technical training. This Institute would provide a means whereby technical training needs would be anticipated, having regard to the likely growth and development of industry. The work of the Institute would provide a basis for forward planning. 22

Moriarty explained that while the Department of Industries and Commerce had no direct responsibility for education, under the 'Industries and Commerce Act, 1956', it was required to promote and encourage both the improvement and development of industry and commerce, and the export trade of New Zealand. In order to carry out this role it could not fail to be interested in all aspects of education, particularly that of vocational training. 23

W.B. Sutch, former Secretary for Industries and Commerce, in a submission to the same Commission, also called for the establishment of

a body with the continuing function of reviewing the whole field of training for industry - from operatives to management - to ascertain the training

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22. M.J. Moriarty, Submission to the Commission of Inquiry into Vocational Training, (Industries and Commerce, June, 1965), pp. 1-2.

23. Ibid., pp. 2-3.

needs of New Zealand with its background of rapid industrial and technological growth, ensure the provision of training and re-training facilities in industry itself and work with the Education Department to ensure that facilities required from the education system are adequate and planned ahead. Such a body would have wider functions than the existing Council for Technical Education and it would have more powers. Its Chairman would be full-time and the organisation would have highly qualified executive staff. 24

The Commission in its report, supported the viewpoint expressed in these submissions and recommended the establishment of an independent statutory body to be known as the Vocational Training Council. The Council would have its own staff and "would meet sufficiently often to settle questions of policy, to receive reports and direct its staff." 25 Its members should come from industry and commerce (including workers' nominees); they should include also an economist as well as educationists. The Council would have the wide functions listed in Appendix G and would render unnecessary the Council for Technical Education. 26

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24. W.B. Sutch, Training for New Zealand's Future, Submission to the Commission of Inquiry into Vocational Training, 18 June, 1965, pp. 27-8.
25. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 42.
26. Ibid., p. 44.

A Council established along the lines suggested by the Commission could be of great benefit by being able to provide an adequate assessment of the training required to meet the needs of industry and in bringing about a closer integration between the industries and the schools, in the future.

In addition to the work of the New Zealand Council for Technical Education, the Technical Institutes themselves have done a lot towards fostering close relationships with industry and enlisting the support of industry in their work. At the Auckland Technical Institute there have been many meetings with industrial groups interested in various fields. One example was the meeting, in October, 1962, of representatives of trade groups and the staff of the Auckland Technical Institute, to consider the teaching of workshop practice in technical institutes and the requirements of industry.

The following list of groups represented is given to show the extent of the interest in this question: Auckland Manufacturers' Association (Metal Trades Group); Auckland Provincial Ironmasters and Metal Trades Employers' Assoc.; Auckland Industrial Development Laboratories, D.S.I.R.; Plastics Institute of New Zealand; Post Office Workshops; Navy Department, H.M.N.Z.

Dockyard; R.N.Z.A.F. Hobsonville and Whenuapai;  
Ministry of Works, Mechanical Engineering Branch;  
Institution of Production Engineers (N.Z. Section);  
New Zealand Institute of Foundrymen, Auckland Branch;  
New Zealand Engineers' Merchants' Assoc. Inc., Auckland  
Branch; Engineering Advisory Committee, Auckland  
Technical Institute; Auckland Technical Institute,  
Engineering Teachers.

The Chairman of the meeting was A.J. Dickson, a member of the Engineering Advisory Committee, and the Secretary was C.L. Maloy, Deputy Principal of the Institute. Mr. Maloy explained to the meeting that the Institute was at the stage of planning a senior workshop (machine tools laboratory) for toolmaking and production engineering, for training technicians and apprentices beyond the Trade Certificate level, and invited industry to offer suggestions as to the nature of the practical work that should be done and the type of equipment that should be installed in the machine tools laboratory.

R.A. Keir, principal of the Institute, stated that the greatest assistance that could be given to the Institute would be for the various organisations present to impress on the Government the urgent need to provide

adequate equipment and accommodation.

During the discussion which followed a number of speakers welcomed the suggestion of liaison between industry and the Auckland Technical Institute and stated that industry would strongly support the Institute in obtaining modern machine tools appropriate for its needs. <sup>27</sup>

Thus it can be seen that while achieving a closer integration between the needs of industry and the training provided in the schools has been a continuing problem, due to the nature of the organisation of industry, its rapid expansion, the breadth of the occupations requiring training, and the changing nature of the skills and techniques required, moves have been made and are continuing to be made at both the national and local level to bring about a satisfactory solution. Further moves relating to this question will be of tremendous importance. It is imperative that New Zealand should have adequate means of assessing the needs of industry and of training workers, not only for the present, but also for the future.

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27. Report of a meeting held at the Auckland Technical Institute on 17 October, 1962.

Staffing:

Nicol said in 1940:

A still unsolved problem which concerns all types of technical schools is that of recruiting and training workshop instructors and expert teachers of trade subjects. 28

Little improvement was made during the war years and the situation which existed with the raising of the school leaving age has been discussed. In 1945 the Regulations which brought secondary and technical schools on to the same footing, raised the salaries and status of trades' teachers and attracted a number of new teachers, but the expansion of the schools absorbed these very quickly. In 1946 a training course for trade teachers was initiated in Auckland by the Department of Education and by 1950 a total of ninety-one trainees had undertaken courses in woodwork and metalwork. Short courses for part-time teachers of practical subjects were also introduced.

However, in spite of these schemes, a shortage of well qualified teachers continued. The report of the Department of Education for the year ended 31st December, 1955, said:

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28. John Nicol, The Technical Schools of New Zealand (N.Z.C.E.R., 1940), p. 221.

The technical schools have been hard put to it to secure enough qualified teachers to cope with the rapid expansion of apprenticeship training over the past few years. The special training courses at Auckland and Christchurch are turning out about fifty trade teachers a year, but they are insufficient to meet the demands and the Department's inspectors in conjunction with some technical schools, have been running short training courses for part-time teachers and for full-time teachers who have come into the service straight from industry. 29

The development of courses for technicians also demanded more and better teachers. The Department of Education reached the crux of the matter in the report for 1955, which said, "The salary scales and the conditions of work applicable to post-primary teachers in general are not necessarily those best fitted to the staffs of senior technical colleges," 30 but it was not until 1963, eight years later, that changes were approved to differentiate between post-primary teachers and staffs of senior technical colleges.

The first moves to bring about such changes were made in 1957, when a Wallis House conference on technical education recognised that there was a need for different conditions of service and salary scales in the senior

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29. Appendices to the Journals of the House of Representatives, 1956, E.1, p. 18.

30. Ibid.

technical schools.<sup>31</sup> A committee was set up under the Chairmanship of the Superintendent of Technical Education and its report at the end of 1958 provided a basis for further work. However, during 1959 and 1960, although further discussions took place, "simply through pressure of other work, progress was much slower than hoped".<sup>32</sup> During 1961 an officer of the Education Department was relieved from other duties for a month to enable him to work full-time on this matter and in this way a detailed scheme was produced and later discussed with interested bodies.<sup>33</sup>

In the meantime, schools had little success in recruiting staff for senior classes and by 1960 the staffing position had become acute. Attempts to recruit teachers for technician classes from the United Kingdom had not been very successful and the Department of Education reported:

The orderly development of technicians courses will be seriously jeopardised if these men cannot soon be found. Already, certain classes are maintained only on a hand-to-mouth basis as far as staffing is concerned.<sup>34</sup>

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31. See p. 145.  
 32. A. E. Campbell, 'Address to the Technical Education Association', Report of Annual Conference, 1961, p. 14.  
 33. Ibid.  
 34. Appendices to the Journals of the House of Representatives, 1961, E.1, p. 19.

Still no relief was forthcoming and by the end of 1962 there were twenty unfilled positions at the Technical Correspondence School, and, in the senior technical schools as a whole, only six of the eight positions of responsibility in engineering, approved in 1960, had been filled. The Department's report said, "the best hope for relief lies in the possibility of final approval in 1963 of a new scheme of salaries and conditions of service for teachers in senior technical schools."<sup>35</sup>

This scheme, finally approved in 1963 and introduced on 1st February, 1964, brought increasing interest in technical institute positions and attracted a number of recruits from industry. However, the scheme did not provide for teachers in those post-primary schools which were providing a large amount of further education. These teachers remained under the post-primary regulations and differences created by the new scheme for the technical institutes resulted in strong moves to achieve administrative separation in the

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35. Appendices to the Journals of the House of Representatives, 1963, E.1, p. 22.

undivided schools. The staffing position in the technical institutes was very much improved through the new regulations, but there remained difficulty in the recruitment of teachers for certain subjects, particularly in branches of science and engineering. Some senior positions also remained hard to fill.

There is no doubt that many of the troubles experienced by the developing institutes have been caused through staffing shortages, which could have been lessened by speedier development of the new scheme. The success of the 1964 regulations in bringing about an improvement in the staffing position highlights the fact that it can only be through better conditions of work, and payment of satisfactory rates of remuneration, that institutes can compete with industry for the services of better qualified men.

It is to be hoped that, in the future, frequent revision of conditions and salaries will be carried out to keep them in line with salaries paid in industry. The position is more satisfactory now than it has been in the past, but it must remain satisfactory.

The Report of the Commission of Inquiry into Vocational Training drew attention to two further points concerning teachers in technical institutes. These

were training in teaching, and continued contact with industry after taking up teaching. <sup>36</sup>

Recently schemes for training in teaching at technical institutes have been approved by the Government. The first of these ensures that newly appointed teachers, without previous training or experience, will not count against the staffing allowance for the first month of their service, thus allowing each institute to provide an induction course for newly recruited staff. The second scheme provides for an introductory pre-entry course for some newly appointed teachers at the Central Institute of Technology. <sup>37</sup> These schemes are a step in the right direction.

The question of continued contact with industry is not a new one, but no satisfactory answer has been found. The Report of the Commission of Inquiry into Vocational Training says:

We find it difficult to put forward any workable and regularised scheme by which teachers could keep in touch with changing practices in industry. <sup>38</sup>

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36. Report of the Commission of Inquiry Into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 34.
37. Appendices to the Journals of the House of Representatives, 1966, E.1, p. 25.
38. Report of the Commission of Inquiry Into Vocational Training, loc. cit.

This problem is one that could be tackled by the Council for Technical Education or the proposed Vocational Training Council, if such a body should be formed.

Accommodation:

The lack of suitable buildings at many technical schools, to allow the development of senior technical work, has already been mentioned.

In the 1940's the Government introduced moves, which increased enormously the pressure on technical school buildings and facilities, without making sure that the material needs were also available. The raising of the school leaving age and the new conditions of apprenticeship were approved by the Government at a time when materials and labour were not available because of war conditions. The effect of these changes on the technical schools has already been shown. When the war ended accommodation problems became even more acute because of the rapid increase in the birth rate and the consequent rise in roll numbers can be seen in Table 9.

TABLE IX 39

Post-Primary School Roll Numbers 1942-47 and  
Estimated Numbers 1948-52.

<u>Roll Numbers</u>		<u>Estimated Roll Numbers</u>	
1942	33,000	1948	48,000
1943	35,500	1949	47,600
1944	41,000	1950	47,900
1945	44,500	1951	48,000
1946	45,000	1952	50,500
1947	45,000		

The Minister of Education, T.H. McCombs, reported:

If the present shortage of classrooms due to wartime conditions is taken into consideration, it is estimated that an additional 325 classrooms as well as all necessary specialist rooms will be required in post-primary schools by 1952. In view of the current shortages of labour and materials the situation is not an easy one to meet satisfactorily. 40

In the following years greater impetus was given to the provision of new classrooms by the new Government elected in 1949, but the position remained unsatisfactory. The editor of the Post-Primary Teachers' Journal commented in 1953:

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39. Appendices to the Journals of the House of Representatives, 1948, E.1, p. 3.  
 40. Ibid.

Far more new school buildings have been erected or are in the course of being constructed than at any other comparable period of New Zealand history. Still the pace is not fast enough. It would appear that there is now no shortage of materials or of workmen, only a shortage of money ... We shall have to put up with the disadvantages of overcrowded and overgrown schools for some time to come. 41

The position in the technical departments of post-primary schools was commented upon by F.G. Spurdle, in an editorial of the Post-Primary Teachers' Association Journal in 1956. He said:

School workshops that ought to be models of up-to-dateness are often dingy and commonplace ... In several centres, especially the larger ones, students are often cooped up in premises inadequate to their needs, yet year follows year with practically no improvement. In short provision has not kept pace with demand. 42

In the main centres accommodation problems were acute. In 1956 the Principal of Seddon Memorial Technical College, in a report to the Post-Primary Teachers' Association Conference, indicated that one of the major problems at his school was a lack of

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41. 'School Buildings', The New Zealand Post-Primary Teachers' Journal, Vol. II, No. 2, (July, 1953), p. 1.  
 42. F.G. Spurdle, 'Technical Schools', The New Zealand Post-Primary Teachers' Association Journal, Vol. II, No. 8, (September, 1956), p. 1.

accommodation, as no new building had been erected since 1922. Many classes were held under most unsatisfactory conditions and every nook and cranny of the building was in use. <sup>43</sup>

At Wellington Technical College the accommodation position was similar. The school needed more buildings for classrooms and workshops, but these were not forthcoming. Indeed, plans for a new workshop building were prepared and tenders called in 1949, but the change of Government at the end of that year saw this scheme shelved in a re-examination of the country's school building programme. <sup>44</sup>

The decision to separate the day school functions of the technical colleges from the senior sections, created special accommodation needs for the developing institutes.

A remit carried at the Technical Education Association Conference in 1961 required:

That the Director of Education should be urged to recognise the urgent need for the planning of the special accommodation

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43. The New Zealand Post-Primary Teachers' Association Journal, Vol. II, No. 5, (June, 1956), p. 13.
44. Noel Harrison, The School that Riley Built (Wellington: Wellington Technical College, 1961), p. 120.

needs of the newly emerging technical institutes. 45

A note to the remit stated:

Although the Department has long recognised the need for special planning for primary, post-primary and University buildings, no plans are apparently being made for what are some of our largest education institutions. 46

A move towards meeting this need was made in December, 1963, with the establishment of a Technical Institute Works Committee "to advise the Government on matters connected with capital works and major equipment projects for senior technical education," 47 and the introduction of a five year capital works 'rolling' programme for Technical Institutes. The Technical Institute Works Committee consists of the Director of Education as Chairman, the Secretary for Industries and Commerce, the Secretary to the Treasury, and the Commissioner of Works, (or their nominees). The first task of the Committee was to examine, in detail, proposals for works to be included in the five-year works programme and to make recommendations to the

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45. The Technical Education Association of New Zealand, Report of Annual Conference, 1961, p. 28.
46. Ibid.
47. Appendices to the Journals of the House of Representatives, 1964, E.1, p.11.

Government.<sup>48</sup>

This development came about largely as a result of the survey carried out in 1963 by the New Zealand Council for Technical Education, of which mention has been made.

The Works Committee, in 1964, submitted to the Government a programme involving the capital expenditure of almost £7.5 million over the next five years. This programme was approved and detailed planning commenced for major works at all of the technical institutes.<sup>49</sup>

In 1965 the Technical Institute Works Committee reviewed the capital requirements for the technical institutes and submitted for Government approval a revised rolling programme for the period 1965-70. This programme, which was approved by the Government, provided for capital expenditure of £10.5 million, nearly £3 million more than in the previous programme.<sup>50</sup> Of this, £8.8 million was for land purchase and buildings and £1.7 million for equipment.

However, despite these provisions, criticism has been made that, by comparison with other countries, the

48. Ibid.

49. Appendices to the Journals of the House of Representatives, 1965, E.1, pp. 9-10.

50. Appendices to the Journals of the House of Representatives, 1966, E.1, pp. 9-10.

building programme is moving far too slowly. R.A.Keir, Principal of the Auckland Technical Institute, has said that the 'Rolling Programme' is moving so slowly that most plans have slipped back two to three years. He has pointed out that the new Manukau Technical Institute originally due to open in 1967, has been delayed at least two years and a new block for the Auckland Technical Institute is now due to open sometime in the 1970's. He has urged a review of the 'Rolling Programme' and some better means of implementing the programme. 51

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51. R.A. Keir, personal interview, December, 1966.

## CHAPTER IX

### THE END OF THE BEGINNING

The reclassification of 'technical', 'combined' and 'secondary' schools as 'secondary' under the 'Education Act 1964', has meant the elimination, officially, of the term 'technical high school' from the New Zealand scene and has ended an era in New Zealand education. The moves which caused the merging of the 'technical' and 'secondary' schools, as previously defined, have been described, but supporters of the technical high schools continued to extol the virtues of such schools and opposed moves to eliminate them.

In 1957 the Department of Education expressed the opinion that the term 'technical high school' had lost a lot of its meaning and said in its annual report:

There has been achieved a parity of esteem between secondary and technical schools and between the academic and non-academic courses within any one school. The hard lines between general and vocational education have been blurred. <sup>1</sup>

This viewpoint, expressed again by the Department of Education in a report to the Board of Managers of the Wellington Technical College in 1959, did not meet with

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1. Appendices to the Journals of the House of Representatives, 1958, E.1, p.10.

complete agreement. The Department's report said:

It is not always easy to see what special attributes a technical high school possesses apart from a somewhat ill defined and sometimes rather elusive 'flavour'.<sup>2</sup>

The report went on to suggest that high school pupils should be "dispersed to other schools leaving the polytechnic free to concentrate on senior technical work."<sup>3</sup>

Opposition to these observations was based on the grounds that the courses provided in straight academic schools were unsuitable for many youngsters. Many teachers felt that the larger proportion of lower ability students, who, prior to 1945, would not have entered post-primary schools, were not being well catered for in many of the newer, multi-lateral schools, because the emphasis tended to be placed on academic attitudes. The implication here was that the technical high schools, which had traditionally provided courses based on practical work, were still needed to cater for children with non-academic interests.<sup>4</sup>

This opposition resulted in the Board of Managers

2. Noel Harrison, The School that Riley Built (Wellington: Wellington Technical College, 1961), p. 124.

3. Ibid.

4. Ibid.

of Wellington Technical College indicating firmly to the Department of Education its determination that the high school should continue to exist.

Similar views on the unsuitable nature of courses for non-academic pupils at many post-primary schools were held at this time.

Phoebe Meikle, a former senior mistress of a large post-primary school said:

The raising of the school leaving age to 15 and age promotion in the primary school have brought post-primary schools a good many slow learners. Unhappily, because of the kind of education with which most of them are presented, few gain or give much of value in the one or two years they spend at post-primary school. Indeed some of them go away worse than they came. 5

The Commission on Education in 1962 reported:

It is clear that the tendency to pre-occupation with preparation for School Certificate and higher examinations has, particularly in a time of staff shortages, retarded progress in these schools (i.e. multi-lateral schools) towards satisfying the needs of a large section of their pupils for whom the technical high schools have always specially catered. 6

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5. Phoebe Meikle, School and Nation (Wellington: N.Z.C.E.R., 1961), p. 18.
6. Report of the Commission on Education in New Zealand (Wellington: Government Printer, 1962), p. 382.

The Technical Education Association, at its conference in 1961, discussed at length the future of the technical high school. The President of the Association, E.W. Mills, said:

Recent happenings, notably the issue of the proposed consolidation of the Education Act, make it essential that we should examine as dispassionately as possible the place of the technical high school in the education pattern of this country and should take whatever action seems needed in the light of our conclusions. <sup>7</sup>

He outlined the earlier views of La Trobe on the function and character of the technical high school and referred to the tradition that they had established. <sup>8</sup>

During the discussion members emphasised the value of technical schools, which provided balanced courses leading to a variety of later occupations. It was considered that multi-course schools could take over the technical education provided in technical high schools, but probably would not. Mills, in his summing up, said:

The multi-course type of school is the most suitable school for the small centre where only one school is required. The philosophy of the technical high school is, however, different from that of the multi-course school. The technical

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7. The Technical Education Association of New Zealand, Report of Annual Conference, 1961, p. 50.  
 8. Ibid, p. 51.

high school should be continued in the main centres and actively supported and developed. The equipment they possess and the influence of staff recruited from industries and commerce play an important role in training students. <sup>9</sup>

A closer look at the schools classified as 'technical' in the 1960 annual report of the Department of Education, gives an interesting picture. There were forty-one schools classified 'technical' in this report, but, of these, twenty were the only schools in their district and had been full multi-lateral schools for a number of years. Seven others were included as technical high schools only because of translation from district high school status in 1960. The existing law made it convenient to translate schools in this manner, but the schools were hardly technical in nature. The remaining fourteen schools were, in the main, established a number of years before, usually in association with secondary schools in the same centre, and they retained in their equipment and staff, a difference which could still justify the name 'technical'. <sup>10</sup>

This justification was not in terms of the courses

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9. Ibid., pp. 53-4.  
 10. Report of the Commission on Education in New Zealand (Wellington: Government Printer, 1962), p. 381.

provided, or the curriculum taught, which were by this time similar in most schools. It was mainly in terms of tradition and earlier associations that the term 'technical' was justified. Because of this, the Commission on Education believed that these schools would probably persist as technical high schools for many years, but it stressed that there were no longer essential differences in the work of the technical high schools. It saw the technical high school as

merely one variety of the typical New Zealand secondary school, not different in kind but overlapping the ordinary multilateral school in the majority of its functions, as far as the day school pupil is concerned. Whether in fact it becomes totally indistinguishable from the multilateral school depends not only on its own further development but on that of the multilateral schools themselves. To some extent it must be dependent on the degree to which the latter adapt themselves better than they have so far been able to do in their work with the non-academic pupil. 11

The Director of Education, A.E. Campbell, in an address to the Conference of the Technical Education Association in 1963, agreed that there was a need for a more suitable type of education for the non-academic and practical-minded type of youngster, but stressed

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11. Ibid., p. 382.

that the problem was common to practically all of the high schools, not only the technical schools.<sup>12</sup> He pointed out that technical education had

separated itself out in large measure from other forms of education above the primary level partly as a result of the deliberate policy, as in the splitting of technical colleges into institutes and high schools, and partly, as the Commission said, just as a consequence of the changes that have taken place in post-primary schools generally, since the last war.

Now that process is continuing. We in the Department think it should be positively encouraged and accelerated. For example, a policy decision was taken in the Department a few months ago to the effect that when, for whatever reason, a technical institute wishes to divest itself of any work that is really technical - any trades course, for instance - we should not think of transferring this work to local post-primary schools. We should think, rather, of establishing another institution concerned wholly with technical work, typically another technical institute.<sup>13</sup>

The continuation of this policy has placed technical education, as it is now defined, outside the secondary school curriculum, but it has not meant that technical, or as it is called in the 1964 Education Act, further education, has been completely removed

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12. The Technical Education Association of New Zealand, Report of Annual Conference, 1963, p. 20.
13. Ibid.

from the secondary schools. There remain a large number of secondary schools which carry out a considerable volume of work in the training of apprentices in day or evening classes and in more senior technical tuition. However, it is expected that, in the future, with the development of new technical institutes, especially in the smaller provincial areas, the number of secondary schools administering further education classes of a technical nature will diminish.

In addition, this change has not meant the removal from the secondary school curriculum of courses referred to as 'industrial', 'building', 'engineering', and 'commercial', which include such subjects as woodwork, metalwork, and typewriting. These have a practical, and to many people, a pre-vocational bias.

The value in teaching such subjects has been doubted in recent years by some writers, who urge that attention be devoted to a broad, general course of instruction and the postponement of any pre-vocational specialisation in the secondary schools.

It has been pointed out that, in the future, the rapid advance of technological achievement will cause conditions and kinds of work to change within a

lifetime. The British report "15 - 18", noted:

A boy who enters industry today will not retire until well into the next century. In that time, the odds are that he will see at least one complete technological revolution in his industry. The job he will hold when he becomes a grandfather may not exist at all today; it will be concerned with processes not yet invented, using machines still to be designed. 14

W.B. Sutch, former Secretary for Industries and Commerce, has pointed to the views of industrialists in Britain and the United States of America, who

tend to regard the postponement of specialization as essential, in order that the young person can absorb the amount of basic education required to train for the jobs that changing technology demands. In most cases, it is not known what these jobs will necessarily be. 15

In view of this, Sutch wrote:

No New Zealander should take pride in the fact that attempts are made to teach girls shorthand in the third form before they have had their schooling or know much of English language and literature, or that boys in the third form start on so-called trade courses. 16

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14. 15 to 18, Report of the Central Advisory Council for Education - England (London: Her Majesty's Stationary Office, 1959), p. 52.
15. W.B. Sutch, Training for New Zealand's Future, Submission to the Commission of Inquiry Into Vocational Training, 18 June, 1965, p. 9.
16. W.B. Sutch, Education for Industry, Address to the Technical Education Association of New Zealand at Timaru, 30 September, 1959, p. 26.

He has advocated the raising of the school leaving age to 16 and a revision of the secondary school curriculum.

For every young person to the age of 16 the vague and ineffective so-called vocational courses and specialised courses should be abolished and the curriculum revised to comprise a broad, unified programme of these compulsory subjects - English, science, social studies, a foreign language, mathematics, music, art and crafts and physical education. 17

The Commission of Inquiry into Vocational Training largely supported this view. "A good general education, with no specific vocational biases, is what is needed for the closing years of the century."<sup>18</sup> The Commission believed the curriculum should be based firstly on the "tools of learning", English, mathematics, and science, and then on "those fields of study and practice that are necessary for all boys and girls to enjoy life in the world around them, languages, social studies (history, geography, sociology), art, music, physical education, crafts." <sup>19</sup>

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17. W.B.Sutch, Education for New Zealand's Future, Submission to the Commission on Education in New Zealand, 16 June, 1961, p. 96.
18. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 30.
19. Ibid., pp. 30-31.

The Commission saw disadvantages in such courses as 'industrial', 'building', 'engineering', and 'commercial', because undue emphasis was placed, especially by parents, on the value of such courses as a preparation for specific careers. However, it saw a need for a due proportion of woodwork, metalwork and technical drawing, as an effective means of general education for some pupils.

To the normal boy who asks "what is the use of this or that?" woodwork can be used as a means of showing him that English and mathematics have their uses too. 20

F.G. Spurdle, speaking at a Technical Education Association Conference, defended the work being carried out in the secondary schools. He agreed that some courses had a pre-vocational slant, but not enough to dictate the choice of occupation, and said:

This claim for a uniform curriculum is based on an exaggerated conception of the one-sidedness of present post-primary courses, and a distorted view of their vocational nature which has over the years become less and less dominating so far as vocational considerations are concerned. The average class of boys in either metalwork or woodwork is no longer taught as though they are prospective apprentices but merely as a group of boys interested in practical skills for their own sake; nor are all pupils in a typing class inevitably destined for office

employment - the typewriter is becoming so widespread that typescript is little more than the modern concept of good handwriting...

Indeed these course options have become so woven into the web and woof of normal secondary education that they are no longer regarded as exceptional or narrowly vocational or even technical. 21

With the continuing advance of technology, it is clear that the educational standards required for entry to the fields of the tradesman, technician and technologist, will rise. Intending apprentices are being encouraged to obtain the school certificate qualification. Most of the witnesses who spoke to the Commission of Inquiry into Vocational Training expressed dissatisfaction with the level of attainment, especially in the basic subjects, of some of those entering apprenticeships. 22

In the technician field, some occupations require a university entrance standard for intending trainees and there seems no doubt that entrance standards will rise.

In view of this, further attention must be paid to the 'tool subjects', but it must not be forgotten

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21. The Technical Education Association of New Zealand, Report of Annual Conference, 1965, pp. 13-14.
22. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 28.

that the secondary schools have to cater for all levels of ability and interest. In a recent publication,

G.H. Bantock, wrote:

What is needed is an education which provides an ample opportunity to achieve the highest level of realization which very diverse natures can encompass. And this means an education which accepts the phenomenon of diversity as its primary datum. 23

The Director of Education, A.E. Campbell, summed up the situation very well when he said:

We certainly want wider and deeper general education; one knows about the increasing educational demands of whole ranges of occupations; one accepts that the future will put a greater and greater premium on a grasp of basic principles, a mastery of the skills of communication, adaptability of mind and so on. It is true too that we have made a good deal of progress in giving point and meaning to the general education we now offer to the whole range of our adolescent population. But we do not fully succeed yet, or nearly so; nor does Britain, or Australia or the United States. And I do not think we shall be more effective if we forget or underestimate the fact that for many young people the vocational purpose is the one most likely to give point and purpose to their education. 24

The continuing shortage of well-qualified

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23. G.H. Bantock, Education in an Industrial Society (London: Faber and Faber, 1963), pp. 224-5.
24. Technical Education Association of New Zealand, Report of Annual Conference, 1965, p. 18.

teachers in the secondary schools is a weakness which, without doubt, has had an important bearing on the standard achieved by prospective entrants to courses of further education. Recent evidence from the New Zealand Post-Primary Teachers' Association Journal, indicated that:

The actual shortage of teachers generally is greater than it was last year (1965). But this is much worse than it sounds because it represents a down turn in the gradual improvement of the past few years. What should have at last been a surplus is now a short fall even greater than last year. 25

Sufficient, well qualified teachers are essential at all levels, if improvement is to be brought about in higher education and it is to be hoped that demands by the New Zealand Post-Primary Teachers' Association to improve the attractiveness of the studentship, to improve starting salaries for teachers, and to retain present teachers by offering improved conditions within the service, receive more favourable consideration than they have in the past.

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25. New Zealand Post-Primary Teachers' Association Journal, Vol. 13, No. 7. (August, 1966), p. 3.

# CHAPTER X

## PRESENT TRENDS IN TECHNICAL EDUCATION

### Apprentice Training:

Since the Act of 1946, little change has been made in the apprenticeship system. During this time technical school training has become recognised as necessary by most trades, and is incorporated in most Apprenticeship Orders.

The increase in the number and percentage of apprentices receiving technical school training is seen in the following table:

TABLE X <sup>1</sup>

Number and Percentage of Apprentices Receiving  
Technical School Training

Year	Number Receiving Technical Education	Percentage Receiving Technical Education
1957	11,175	61
1958	14,417	72
1959	15,038	73
1960	16,103	78
1961	17,582	82
1962	19,521	88
1963	21,502	94
1964	23,485	97

1. Data derived from E.W. Braithwaite, 'Education, Social Change and The New Zealand Economy', Unpublished Paper, University of Auckland-Education Department, Table (g).

Each Apprenticeship Committee decides whether training should be undertaken in evening classes, 'day release', (a period of time during working hours for attendance at training classes), 'block courses' (short courses of two or three weeks duration), or through correspondence work. Generally town apprentices attend day release or evening classes while the country apprentices are provided with correspondence work and supplementary block courses in practical work at a technical institute.

In recent years there has been a tendency toward block course rather than day release training for all apprentices. Typically an apprentice is directed to attend a block course, generally of three weeks, in each of his first three years of apprenticeship.

Recently the length of apprenticeship has come under review. The most common term today is 10,000 hours, but many orders allow for reduced terms for apprentices with School Certificate, or credits of time for those who pass Trade Certificate Examinations. The Technical Education Association, in a submission to the Commission of Inquiry into Vocational Training, pointed out that these provisions related to a term of apprenticeship which was uniform for most trades regardless

of the differing degrees of skill required by the trained craftsman in different trades. It suggested that the length of the training period should depend on the degree of skill required, with some flexibility to allow for natural talent and background education.<sup>2</sup> The Commission considered that there must be a minimum period of actual workshop experience for each apprentice, but added that this period could be affected by the maturity of the apprentice, the type and organisation of workshop training, and the skills required in different occupations.<sup>3</sup> It outlined a scheme which would allow a time reduction and an increase in wages on the passing of each of the First Qualifying, Second Qualifying and Trade Certificate Examinations. This scheme, it was felt, would provide a stronger incentive to the apprentice. It was left to apprenticeship committees to consider any action along these lines.

Linked with the question of the term of apprenticeship are proposals which have been made for schemes of trade training or pre-entry training for apprentices. These have gathered increasing support

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2. The Technical Education Association of New Zealand, 'Submission to the Commission of Enquiry into Vocational Training', 29 April, 1965, p. 2.
  3. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), pp. 12-13.

through the success of a scheme started some years ago for Maori apprentices.

In the 1920's and early 1930's the great majority of the Maoris were rural dwellers, forming a low paid pool of rural labour. In 1936 only about 11% were town and city dwellers and only 3.4% were employed in manufacturing. Over 40% were engaged in agriculture, while a further 40% were probably engaged in casual work.<sup>4</sup> By 1961 the position had altered considerably. About 36% lived in towns and cities and nearly 29% of the total Maori labour force was engaged in manufacturing. Employment in agriculture, forestry, hunting and fishing, had declined to 22%, construction work claimed 14% and transport, storage and communication 12%.<sup>5</sup> There has clearly been a change of occupation from primary to secondary industry.

In view of this trend, and in an effort to assist young Maoris to take on a trade rather than accept unskilled jobs, special hostels were established in the early 1950's at Auckland and Wellington, for Maori youths

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4. M.J. Moriarty, 'Submission to the Commission of Inquiry into Vocational Training', (Industries and Commerce, June, 1965), p. 25.
5. Ibid.

wishing to take up trade apprenticeships, provision for which was impossible in their home districts.<sup>6</sup> This scheme was extended by the opening of a hostel at Rotorua in 1954.<sup>7</sup> Although in the main successful, the scheme had a disadvantage in that a number of the boys found difficulty adapting themselves to urban life.

In 1959 the Department of Maori Affairs, with the co-operation of the Department of Education and the Seddon Memorial Technical College, and the approval of the New Zealand Carpentry and Joinery Apprenticeship Committee, instituted in Auckland a scheme of training in carpentry for Maori boys from country areas. The scheme was experimental and introduced the concept of full-time day trade training. Periods of attendance at college for instruction in trade theory and related technology were to be alternated with full-time building construction work. During the two-year course the trainees were to be paid at apprentice rates and the training was to be completed by apprenticeship to private employers, with the two years being credited to their

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6. Appendices to the Journals of the House of Representatives, 1954, H.11, p. 6.
  7. Appendices to the Journals of the House of Representatives, 1955, H.11, p. 6.

term of apprenticeship.<sup>8</sup>

The initial intake was 10 boys between the ages of 16 and 21 years. However, the scheme was so successful that the intake was increased to 20 in 1960, and 30 in 1961. In addition, the scheme was extended to Wellington in 1961 and Christchurch in 1962.<sup>9</sup> Similar schemes were commenced for other trades and by 1965 motor mechanics, electricians, plumbers, painters, plasterers, and panelbeaters were included. (See Appendix H). In effect, trade schools are operated each attached to a technical institute and each with its own full-time teachers. All students are admitted to the relevant First Qualifying Examinations of the Trades Certification Board.<sup>10</sup>

The advantage of this scheme over the earlier one, which provided hostel accommodation only, lies in the greater disciplinary effect of working in a trade school, where regular habits of work, punctuality and accuracy are inculcated.<sup>11</sup> The success of the scheme

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8. Appendices to the Journals of the House of Representatives, 1960, B.1, p. 45.  
 9. Appendices to the Journals of the House of Representatives, 1961, G.9, p. 6.  
 10. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 21.  
 11. Ibid.

can be seen from the praise accorded the trainees by employers, tradesmen and teachers alike.<sup>12</sup> It can also be seen in the results achieved. The annual intake of boys is 144 in seven trades. Up to 31st March, 1965, a total of 518 trainees had been taken into the scheme. Of these 305 had been placed with employers for the completion of their apprenticeships, and 57 former trainees had completed their apprenticeship contracts. Two had left the trade since, a loss of 3.5% and 15 out of 305, or 4.8%, left during training.<sup>13</sup>

The scheme, however, is open only to boys from rural areas. In 1965 the Commission of Inquiry into Vocational Training, recommended that boys from urban areas be admitted to the scheme. The Commission pointed out that in many urban areas the number of apprenticeship vacancies each year was small and Maori boys found it difficult to obtain apprenticeships.<sup>14</sup> This proposal is certainly a step in the right direction and it is to be hoped that it will be put into force. The success of the scheme has aroused a good deal of

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12. See: Harry Dansey, 'Boys Training Scheme A Big Success', The Auckland Star, 29 September, 1966.
13. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 70.
14. Ibid., p. 22.

interest among those concerned generally with apprenticeship training, and it has been suggested that similar facilities should be provided for all apprentices. New Zealand is lagging behind other advanced countries in the time devoted to group training during apprenticeship as can be seen in table XI.

TABLE XI 15

Length of Apprenticeship Training Period  
and Percentage devoted to School Training  
in a Number of Developed Countries

Country	Average length of training period	Percentage of contract period devoted to school training
Switzerland	1 - 4 years	13%
Belgium	4 years	10-100%
Holland	1 - 4 years	14%
Sweden	3 years	16-30%
Italy	2 - 3 years	16-20%
France	3 years	10-30%
West Germany	3 years	16-30%
Britain	5 years	Permissive 5-30%
Australia	5 years	11%
New Zealand	5 years	5-7%

15. Data derived from The Technical Education Association of New Zealand, 'Submission to the Commission of Enquiry into Vocational Training', 29 April, 1965, p. 10.

R.A. Keir, on his return recently from an overseas visit, said:

There is a need to experiment with pre-entry training for periods up to six months along the lines already proved effective overseas. Several industries are ready to try a pilot course of this nature and I hope we shall be allowed to co-operate with them.<sup>16</sup>

The Commission of Inquiry into Vocational Training recommended that "some experiments should be tried of giving apprentices periods in trade schools in the early months of their apprenticeships."<sup>17</sup>

A period of pre-entry training would ensure that the apprentice, when he started on the job, had skills which would make him immediately useful and productive.

The main objection to such schemes seems to be on the grounds of cost. The Report of the Commission of Inquiry into Vocational Training had reservations about the cost of training and the payment of wages to boys while training.<sup>18</sup> The same doubt was expressed in a recent annual report of the Department of Education, when the possibility of the introduction of trade schools was discussed.

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16. The Auckland Star, 26 September, 1966.  
 17. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 57.  
 18. Ibid., p. 25.

If the introduction of trade schools became a question of practical politics in New Zealand it would be one for decision at Government level, because these schools would, to some extent at least, carry out training which is now the responsibility of the employer and would therefore represent a cost to the State not now borne by it. 19

It is to be hoped that the question of cost is not made the main consideration in determining the outcome of proposals for improved training.

Another recent proposal concerns the need for the teaching of non-vocational subjects, particularly communication English to apprentices. This has been tried recently with technician classes and has proved very successful. Moves of this kind, however, must depend very much on the type of training which is being given and the amount of time available for training.

#### Technician and Related Training:

Progress in technician training over the past ten years has been hampered, as has technical education generally, by the shortage of qualified teachers, the lack of satisfactory buildings and equipment, and uncertainty concerning the future requirements of industry. However, despite these handicaps, there is no doubt that

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19. Appendices to the Journals of the House of Representatives, 1964, E.1, p. 29.

technician training has developed along very sound lines. The system has been developed to suit the needs of the country through the very good work of the Technicians' Certification Authority and the technical institutes. The courses developed by the Authority have proved popular, and at the end of 1965, there was a total of 6,027 active students undertaking them.

Table XII shows the numbers of students undertaking the various courses.

TABLE XII <sup>20</sup>

Numbers of Active Students Undertaking Courses  
Developed By The Technicians' Certification Authority  
at 31.12.65.

Course for	Number of Students
N.Z. Certificate in Engineering	3,334
N.Z. Certificate in Draughting	1,299
N.Z. Certificate in Building	258
N.Z. Certificate in Quantity Surveying	108
N.Z. Certificate in Science	808
N.Z. Technical Certificate	40
N.Z. Certificate of Competency in Garage Management	46
Radio Technicians' Certificate	134

20. Data derived from B.W.Potter: Technician Training in New Zealand, A background paper presented to the Technical Education Association Conference, Nelson, October, 1966, p. 20.

At present there is activity to establish a New Zealand Certificate in Commerce, and the steps taken show the typical procedure involved in setting up a new course. The attention of the Commission of Inquiry into Vocational Training was drawn to the need for such a qualification and the Commission, in its report, noted:

There is nothing for the young man or woman who wants a programme of study somewhat short of a professional qualification. It appears to us, to the Associated Chambers of Commerce, and to the State Services Commission, that some course of study comparable with those already in existence leading to Certificates in Engineering, Science and Building would be desirable. 21

In March, 1966, the New Zealand Society of Accountants informed the Technicians' Certification Authority, that it approved of the establishment of a New Zealand Certificate in Commerce and offered its full assistance.

As a result, a tentative course was drawn up and discussed with interested organisations, who were enthusiastic about it. Later, following a conference, of representatives of organisations interested in commercial education, the Minister of Education gave

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21. Report of the Commission of Inquiry into Vocational Training, October, 1965, (Wellington: Government Printer, 1965), p. 48.

the Technicians' Certification Authority, permission to set up an Executive Committee for Commerce which is to be responsible for drawing up a five year course for a New Zealand Certificate in Commerce. <sup>22</sup> It should be noted that the Technicians' Certification Authority did not initiate moves to bring about this course. As a matter of policy the Authority does not approach institutions or employers suggesting to them that it should devise new courses or certificates for their benefit. Its aim is to let it be widely known that its responsibility is to promote courses and examinations for sub-professional personnel and leave it to the organisations concerned to initiate moves towards establishing courses if and when the need arises. <sup>23</sup>

Course patterns differ from institute to institute, but the same types of course are offered. Most of the training of technicians is done through part-time classes during day time and evening. The majority of students are given a period of day release, for attendance at a technical class. Timetables are generally organised so that the total time allowed for day release is

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22. Potter, op.cit., p. 23.

23. Ibid., p. 21.

utilized in one period of four, six or eight hours. This reduces inconvenience to employers and avoids excessive travelling time. Attendance requirements not provided for by day release are carried out through evening classes.<sup>24</sup> In recent years there has been a tendency towards a greater emphasis on full-time courses, block courses, and 'sandwich courses'. Full-time courses are accounting for a higher percentage of the teaching at some institutes. This trend has been assisted by the provision, from March, 1965, of technical institute bursaries for students attending approved full-time courses. Holders of these bursaries, who must possess a School Certificate to qualify, have tuition fees paid and, if eligible, receive a boarding allowance of £60 per annum for the first two years and £125 per annum for subsequent years.<sup>25</sup> In the technician field full-time courses have developed to speed the training of better qualified entrants. Block courses are also being increasingly used. These, for technicians, take two forms. They can be short courses of one or two weeks duration to supplement

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24. Ibid., p. 11.

25. Appendices to the Journals of the House of Representatives, 1966, E.1, p. 27.

Technical Correspondence Institute assignments, or courses of nine to twelve weeks in length, which cover the complete syllabus of a one-year, part-time course. 'Sandwich courses' involve continuous periods of attendance totalling an aggregate of 18 weeks during the year.<sup>26</sup> The use of block courses and sandwich courses allows for better use of space and equipment and it is likely that these will be increasingly used in the future.

Despite the success of the training schemes instituted for them, there still remains a grave shortage of technicians and, at the present rate of training, this shortage is expected to become worse in the future. C.L. Maloy, Deputy Principal of the Auckland Technical Institute, in a recent paper on technician training, gave estimates showing a shortage of 3,800 well qualified engineering technicians in New Zealand. He said:

At the present rate it will take  
10 to 11 years to make up this  
deficiency even on the assumption  
that there will be no further growth  
in the demand for or loss in the  
supply of certified technicians, an

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26. Potter, op. cit., pp. 10-11.

assumption that seems obviously unacceptable. 27

To remedy this shortage, Maloy saw the need for vigorous action by employers in:

- (a) Offering careers with interesting and worthwhile work, with ultimate prospects of secure and adequately-paid positions carrying responsibility and status within the engineering industry.
- (b) Recruiting young people, both boys and girls with good educational qualifications (preferably University Entrance in mathematics and physical sciences or a corresponding School Certificate with good marks).
- (c) Establishing carefully planned training schemes which will assist the more able and hard working trainees to complete their technical and practical training in the minimum possible time. 28

At the Auckland Technical Institute special courses have been instituted along the lines suggested by Maloy. One, for engineering technicians, is designed to attract able students with specified University Entrance qualifications into industrial engineering. It provides a full-time, one year course during which the first three years work of the

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27. C.L. Maloy, 'Technician Training and the Technical Institutes', Part 2 of 'The Education and Training of the Engineering Technician' New Zealand Engineering, Vol. 20, No. 10, (October, 1965), p. 422.
28. Ibid., p. 423.

normal course for a New Zealand Certificate in Engineering or Draughting are completed. Successful students then attend part-time for a further two years with one whole day per week release each year, to complete the fourth and fifth year courses. The course is 'works based', that is, each student is sponsored by an employer and is paid during the training period. In this way formal technician training can be completed in three years.<sup>29</sup> A similar course is provided for building technicians. It is a two year course, designed to cover the first three years of the New Zealand Certificate in Building.<sup>30</sup>

In addition to the technician courses mentioned, courses are continuing to be developed in other fields where there is a need for sub-professional training. In recent years many new courses have commenced. Those which are based on the more usual type of day or evening class attendance, include, a course for meat inspectors for the Department of Agriculture and a course in printing management for young executives in the printing industry. Correspondence courses, leading to the examinations of the Institute of Transport and

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29. Ibid., p. 420.

30. Appendices to the Journals of the House of Representatives, 1965, E.1, p. 26.

of the Real Estate Institute, for local body administration, and, in the use of agricultural chemicals, have been developed. New block courses include those for motor parts personnel and in heating and ventilating. There has also been the emergence of senior business courses of one full-time year for girls intending to enter secretarial positions. These have developed in the provincial towns as well as the main centres where a number of classes are provided. <sup>31</sup>

More recently, attention has been focussed on the catering industry, where trial part-time courses for those already engaged in the industry were held during 1966. <sup>32</sup> It is likely that in the near future full-time courses in catering will be commenced. This is not a complete list of the courses recently introduced, but it serves to show the diversity of occupations where training is considered necessary. It is evident that in the future a wide variety of new courses will continue to be developed along the lines of those at present in operation.

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31. Ibid., p. 27.

32. Appendices to the Journals of the House of Representatives, 1966, E.1, p. 26.

Linked with the development of 'full-time' and 'sandwich' courses have come attempts to provide a more liberal curriculum for the trainees in all fields. The Director of Education, A.E. Campbell, stated the policy of the Department of Education concerning such studies, in an address to the Technical Education Association. He said:

As far as the Department of Education is concerned liberal studies will be encouraged:

- (a) as an integral part of courses for full time students;
- (b) as part of the course for day release block course, and sandwich course students if time can be found and employers agree;
- (c) as a cultural activity for any student in the form of clubs or lunch-time activities as distinct from formal classes. 33

These aims are being pursued in the institutes. Examples are, the inclusion of Communication English in the full-time courses for technicians at the Auckland Technical Institute and, following experiments in 1964, all full-time students at the Wellington Polytechnic, are provided with some measure of liberal studies in the

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33. The Technical Education Association of New Zealand, Report of Annual Conference, 1965, p. 21.

following areas: Sociology, Design and Art, Music, Drama, Current Affairs, Languages, and Asian Studies. 34

The Technical Institutes:

As the demand for new courses has increased, so has the need for expansion of facilities for training. At present there are two national technical institutes, namely, The Central Institute of Technology and the Technical Correspondence Institute, and four regional institutes, which are located in the four main centres, Auckland, Wellington, Christchurch and Dunedin. Such has been the growth of the regional institutes, that policy has been adopted for the establishment of 'satellite' or 'associate' institutes in peripheral locations relative to the main institute. These will cater for the expansion in the demand for elementary training, leaving the teaching of the more advanced work to be carried out in the main institutes. They will be brought into operation when the size of the main institute approaches what is thought to be the limit for a particular site or for a conveniently sized educational unit. Control of both the main and the

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34. Ibid., p. 19.

associate institutes is expected to remain under a single governing body. 35

In Auckland, plans for the first associate institute are being developed. This institute, to be called the Manukau Technical Institute, will absorb part-time classes provided in the area by the Otahuhu College and other secondary schools. In addition, planning envisages the transfer of courses in boilermaking and painting and decorating from the main to the associate institute. 36

The relationship between the courses taken at the Central Institute of Technology and those taken at the regional institutes, has been a contentious question for some time. Difficulties have arisen where a regional institute has wished to develop a new course to cater for a local demand but, because it was felt that there were small numbers in other centres who may wish to attend such a course, the course has been developed at the Central Institute of Technology, even though most of the students are from one regional area.

The New Zealand Council for Technical Education, discussed this question at length in 1963, and decided that the

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35. Appendices to the Journals of the House of Representatives, 1965, E.1, p. 25.  
 36. Appendices to the Journals of the House of Representatives, 1966, E.1, p. 24.

principles laid down at the Wallis House Conference in 1957 still appeared to meet the needs of the Dominion satisfactorily and should be adhered to.<sup>37</sup> In 1965 the Minister of Education, A.E. Kinsella, speaking to the Technical Education Association, outlined the policy on this matter:

Basically, the aim is to provide whatever vocational training is needed as close as possible to the area of demand, but to this must be applied obvious economic restrictions.

Consequently the plan is that the Central Institute of Technology should develop as a National Institute, offering those courses for which one centre can meet the needs for the whole of New Zealand - for example, some of the practical work associated with correspondence course; some of the more specialised work at technician level; and the higher levels of certain courses provided regionally.

Associated with this National Institute is the Technical Correspondence Institute providing correspondence tuition where there is insufficient demand to justify live classes, or where practical block courses need to be supplemented by tuition in theory, but the students are unable to attend classes at the regional centres. The Regional Institutes will provide all classes for which there is a sufficient local demand including, in

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37. The Technical Education Association of New Zealand, Report of Annual Conference, 1963, p. 44.

some cases where special conditions apply, national courses. As growth takes place the National Institute will develop new courses but lose others to the existing Regional Institutes which in turn will lose some of the more popular courses to new institutes in other centres or to satellite institutes in the same centres. <sup>38</sup>

#### Growth at the Central Institute of Technology

at Petone, has been such that the Institute has outgrown its site. Accordingly, plans are being developed to move the Institute to a new 25 acre site at Heretaunga, where it will continue as a national Institute. The Department of Education has decided that this institute should not cater for courses below technician level and accordingly no provision for trades courses will be made at Heretaunga. <sup>39</sup> The present institute at Petone will be developed as a regional institute. <sup>40</sup>

In some of the smaller centres moves are being made to have technical institutes established. A campaign is under way to establish an institute at Rotorua and with this in mind, a party of civic and educational leaders visited the Auckland Technical Institute during 1966. The planners of this scheme

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38. The Technical Education Association of New Zealand, Report of Annual Conference, 1965, pp. 9-10.  
 39. Appendices to the Journals of the House of Representatives, 1965, E.1, p. 26.  
 40. Ibid., p. 10.

hope that the proposed institute will specialise in forestry, timber processing and related engineering, to serve the needs of the Bay of Plenty area.<sup>41</sup>

At Whangarei the acquisition of a site for a technical institute is under active consideration and further moves towards the establishment of an institute there can be expected in the near future. In addition proposals are being made for a technical institute at Tauranga.

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41. The New Zealand Herald, 7 September, 1966.

## CHAPTER XI

### SUMMARY, FUTURE NEEDS AND LIKELY TRENDS

Changes that have taken place in the system of technical education over the past twenty-five years have been clearly influenced by economic and social factors. Before 1940 technical education was an alternative type of post-primary education which arose to meet the needs of the less academically minded pupil and provided a practical type of education, emphasising vocational skills. The secondary schools catered largely for the academically minded pupil and provided courses leading to University Entrance and the professions.

Following the depression of the early 1930's, ideas changed. Greater emphasis was placed on the expansion of secondary industries and on social equality. In education, moves were made to minimize the social distinctions which had developed between technical and secondary schools. The Proficiency Examination was abolished, removing any restriction on entry to post-primary schools; the curriculum was broadened, to provide a compulsory basic core and a wide range of optional subjects; and administrative changes were made to provide the same basis of staffing, grants and

control in both technical and secondary schools.

These changes narrowed the differences in the schools to such an extent, that today all are classified as secondary schools and in general each offers a wide variety of courses to cater for the differing needs of every pupil.

In the middle 1940's the apprenticeship system was revised and more emphasis was placed on 'school' training to enable apprentices to cope better with the growing complexity of industry. This emphasis has continued through the ensuing years and today there are very few apprentices who do not undertake some form of 'school' training.

The tremendous advance of technology following the second world war threw emphasis on the need for greater efficiency and the use of modern techniques of production in both primary and secondary industry. New varieties of occupation brought with them the need for a new group of trained personnel with qualifications intermediate between those of a tradesman and those of a university graduate. This meant the development of courses for technicians, as this group has come to be known.

The burden that courses for tradesmen and technicians placed on the senior sections of the technical schools brought about the separation of these sections from the high school sections, to form technical institutes, which constituted a new branch of tertiary, or further education.

Further needs in technical education will continue to depend, to a large extent, on economic and social development and some idea of these needs can be gained from an examination of present economic trends.

Over recent years manufacturing and tertiary industry has continued to expand and take an increasing part in the economic growth of the country. This can be seen clearly through the changes that have taken place in the proportion of the active labour force engaged in the three main industrial sectors - primary (including farming, fishing, hunting and forestry); secondary (manufacturing); and tertiary (transport and communications, public utilities, wholesale and retail, domestic labour and service industries).

Table XIII shows how the pattern has changed.

TABLE XIII <sup>1</sup>

Percent of Labour force in  
Main Industrial Sectors

	1951	1956	1961
Primary	18.6	16.1	14.4
Secondary	34.3	34.5	35.3
Tertiary	46.4	48.6	49.9

The decrease in the proportion engaged in primary industries is a mark of the efficiency of primary industry in New Zealand. Mechanisation, and the application of the lessons of research, have made it possible for fewer people to produce more. In fact, during the 1950's, the volume of farm output increased by about 25%. <sup>2</sup>

The trend seen in Table XIII is characteristic of the more economically advanced countries of the world. Economic development and the proportion of population in agriculture are inversely related. <sup>3</sup>

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1. Data derived from E.W. Braithwaite, 'Education, Social Change and the New Zealand Economy', Unpublished paper, University of Auckland, Education Department, p. 4.
  2. Woolf Fisher, 'Looking Ahead', address to the Technical Education Association of New Zealand, Report of Annual Conference, 1962, p. 33.
  3. Braithwaite, op. cit., p. 5.

This can be seen in Table XIV, which compares a number of countries ranked by level of economic development, with respect to the proportion of the population engaged in agriculture, using the gross national product per capita as the measure of development.

TABLE XIV<sup>4</sup>

Percent of Population in Agriculture by Level of Economic Development (1951-9)

	<u>Percent in Agriculture</u>	<u>G.N.P. Per Capita (U.S. Dollars)</u>
<b>Level 1 (underdeveloped)</b>		
Ethiopia	90	55
Sudan	75	60
Kenya	88	87
<b>Level 2 (partially developed)</b>		
Indonesia	75	131
Tunisia	68	173
Ecuador	53	189
<b>Level 3 (semi-advanced)</b>		
Mexico	58	262
Greece	48	340
Czechoslovakia	38	680
<b>Level 4 (advanced)</b>		
Denmark	24	1057
New Zealand	16	1310
U.S.A.	12	2577

4. Data derived from Frederick Harbison and Charles A. Myers, Education, Manpower and Economic Growth (New York: McGraw-Hill, 1964), pp. 45-48.

It is evident that if economic development is to be maintained, let alone to expand, there will have to be continued and increasing efficiency in production. Plainly, New Zealand will have to rely more and more on the development of human resources.

With the decrease in the proportion of the labour force on the farms, an increasing proportion is entering manufacturing and tertiary industries. The need to provide employment, however, is not the sole justification for the development of secondary industry in New Zealand. More important in recent years has been the need to diversify and strengthen the economy and to reduce the dependence on imports of finished goods. An industrialist, Woolf Fisher, said:

We may not reduce our total dependence on imports, but if they are imports of raw materials and components we can sustain a higher population and higher standard of living than will otherwise be possible. 5

It is clear today, that New Zealand can no longer rely on the sale of her primary products in the way that she has in the past. In recent years Great Britain has shown an increasing desire to join the European Economic Community and this, should it happen, could present difficulties for New Zealand, which has

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5. Fisher, op. cit., p. 34.

traditionally depended upon Britain for the marketing of a large proportion of goods. Rather belatedly, New Zealand has been looking to the development of secondary industries, based on primary products and imported raw materials. This kind of development will require with it, the development of skill and ingenuity to enable the New Zealand product to compete successfully with the products of other countries.

The importance of the tertiary industries is not always clearly appreciated. Along with the improvements in primary and secondary production have come improvements in the transportation of goods, and the means used to package the goods for more efficient transport. Improved means of communication and recording have allowed speedier transaction of business. Here, too, the machinery used is becoming more complex and future development will require increasing skill on the part of the technicians who maintain this equipment.

Thus, future development in all areas will require a greater use of human resources and this will necessitate the provision of greater facilities for training. There is, at present, a great demand and need for skilled personnel in all walks of life, which

is becoming more pressing each year.

In 1963 the Minister of Industries and Commerce, J.R. Marshall, said:

We must appreciate, as a country, that our real progress will depend on the knowledge and skill of our people; because we are a small country of two and a half million people, we cannot rely on mass manpower. We have to rely on concentrated manpower, and the more skilled and competent the people of this country can become, the better machines that we have, the more we can compensate for our small numbers and our high standard of living. <sup>6</sup>

It is apparent that the Government is aware of the need for well equipped technical institutes to carry out the necessary training, but there are doubts as to whether the speed at which developments are taking place is fast enough for future needs.

New Zealand has been slow in the past in providing the kind of education needed for the future. It is important that this trend should not continue. It is also important that the public should become more aware of the need for technical training and the need for recognition of the status of skilled men. It must be made clear that the future of the country

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6. J.R. Marshall, 'Address to the Technical Education Association of New Zealand, Report of Annual Conference, 1963, p. 16.

depends on the development of skill at all levels. There is a need for technologists and scientists to generate new developments and for technicians and tradesmen who can apply the new learning to industry.

In the past the policy of the Education Department has been to wait for industry to ask for the establishment of any new training course but, because some groups in industry were not well organised, the demand for training by these groups has been slow. In view of the need to speed training it would be better for the education authorities to take the initiative in the establishment of new courses.

The provision of increased facilities for technical training will require more finance. Finance for education has been a major stumbling block in the past. The country has spent huge sums on capital development programmes, but proportionately less on education. In discussing the provision of educational finance, W.B. Sutch said in 1961:

I have pointed out that other countries devote a higher proportion of their national income to education than does New Zealand. New Zealand cannot afford not to devote more resources to education - even if it means a temporary shortage in the capital available for other sectors

of the economy. To neglect education is to neglect our future. 7

In the report of the Commission of Inquiry into Vocational Training, the need to spend money on education was continually stressed:

If we are to maintain and improve our standards of living (and the processes by which we do that are complex) there must be a greater investment in training. To spend money now is to ensure an adequate supply of skilled people in the near future.

This theme of expenditure on training as an investment is one that recurs throughout this report. 8

New Zealand must be prepared to provide more finance for technical training and it has been suggested that overseas trends should be followed and a greater contribution towards the cost of training should be required from industry. 9

In a recent paper, C.L. Maloy outlined the

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7. W.B. Sutch, Education for New Zealand's Future, Submission to the Commission on Education in New Zealand, 16 June, 1961, p. 96.
  8. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 10.
  9. This idea is not entirely new in New Zealand. The possibility of earmarking a proportion of tax from industry for the purpose of training apprentices and employees was suggested by S.G. Smith in his presidential address to the Technical Education Association Conference in 1937.

practice in Britain, where, under the 'Industrial Training Act 1964', all firms must pay towards the cost of training; in France, where all employers pay a tax for industrial training; and in the Australian States of New South Wales and Victoria, where a student pays an annual fee, which is refunded to him by his employer, if his attendance, conduct, and progress are satisfactory. <sup>10</sup>

The Commission of Inquiry into Vocational Training approved of the principle of levies for training and felt that a full investigation of the ways that levies were applied in other countries should be made and that the proposed Vocational Training Council, if established, could carry this out. <sup>11</sup>

At many stages in the development of technical education there can be seen a lack of adequate long-term planning. In the provision of buildings, the training of teachers, and the development of new courses, necessity has demanded the use of temporary means and short-term

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10. C.L. Maloy, The Education and Training of the Engineering Technician, A paper presented to the Auckland Branch, New Zealand Institution of Engineers, 21 October, 1964, p. 21.
11. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 47.

proposals, which have placed a very great strain on all concerned in implementing them. Insufficient value has been placed on an adequate research programme to assist in planning for future needs.

Research undertaken by the New Zealand Council for Technical Education has been mentioned and its value can be seen in the establishment of the rolling programme for building and the course developed in Quality Control. A further example of research is seen in the survey of the 1965 enrolments at the Auckland Technical Institute, undertaken by P. Dickinson and H. Williams, of the Department of Education, Auckland. This survey indicated the direction that future planning in Auckland should take and the authors recommended that surveys of this nature should be repeated at frequent intervals. They suggested the use of a common statistical programme for all technical institutes, which could be analysed by computer. They concluded:

In this connection it would be important that the persons who advise on a Statistical programme for technical institutes have the time to make a thorough investigation within a reasonable time and therefore it might be appropriate to refer this project to any new Vocational Training Council that may be set up as recommended

by the Commission into Vocational Training.<sup>12</sup>

The Commission of Inquiry into Vocational Training, in suggesting a Vocational Training Council, pointed to the lack of data and statistics available on which to base recommendations for the future.

The need for study and prediction is a continuing one. Therefore we propose that a permanent organisation should be set up to gather data on which planning can be based.<sup>13</sup>

There is a very definite need for a body not only capable of carrying out the necessary research into technical education, but also capable of making recommendations on future moves to all bodies connected with technical education and of seeing that these recommendations are carried out. Such a body would have to establish a close liaison with industry, and in carrying out this function, it would fulfill an important need. It is to be hoped that the recommendations of the Commission of Inquiry into

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12. P. Dickinson and H. Williams. A Report on a Survey of the 1965 Enrolments at the Auckland Technical Institute, prepared for the Joint Planning Committee of the Department of Education and the Board of Governors of the Auckland Technical Institute, 30 September, 1966, p. 30.
13. Report of the Commission of Inquiry into Vocational Training, October, 1965 (Wellington: Government Printer, 1965), p. 42.

Vocational Training for an independent statutory body to undertake this work, are put into effect as soon as possible.

In the administration of technical education an interesting situation has arisen. Although the field of technical education is now separated from secondary education, the Director of Technical Education is still on a par with the Directors of Primary and Secondary School education, and they all share a common administrative service. Now that technical education has been classified as tertiary or further education the system of administration should operate in a similar way to that provided for other bodies administering branches of further education. The Universities are autonomous in their control and are linked with Government through the University Grants Committee. There are at present moves to have the Teachers' Colleges administered in the same way and it would seem appropriate for technical education to be administered similarly.

Technical education in the future will depend very much on how, and to what extent, the foregoing needs are met and on the assumption that the political and social structure will remain stable and free from

the perils of war. However, there are at present, trends in thought and practice which, when considered alongside the industrial and economic needs of the country, give an indication of the direction that is likely to be taken in future training.

It would seem that in the apprenticeship field New Zealand will benefit by increasing the period of trade training in apprenticeship, thus following overseas trends. This could take the form of pre-entry training, followed by increased block training during apprenticeship. The length of apprenticeship could be varied, as recommended by the Commission of Inquiry, and related more to the skill and the maturity required for craftsman status. Increased incentives for examination successes would also seem to be warranted. As industry expands, large industrial organisations with a number of apprentices could establish their own training schools. In the technician field there is likely to be increasing use of full-time and sandwich courses, in order to speed training and to make use of the facilities available. An extension of full-time technician training could eventuate as employers see the benefits of such training. As the importance of the technician grows, better qualified recruits will probably be attracted.

Vocational guidance will play an important part.

Great interest in schemes of training is being shown by many other occupational organisations and it is apparent that, in the future, vocational training for other groups will develop along lines similar to those provided for apprentices and technicians.

Training and re-training programmes for women will become increasingly important. Many women today are employed in unskilled jobs, where their abilities warrant skilled jobs. There is a tendency, as in other western world countries, for increasing numbers of women to enter an occupation when their families are older. In New Zealand at present, about 25% of married women go out to work, but this proportion "can be assumed to approach 40% progressively through the years." 14

The Commission of Inquiry into Vocational Training reported:

Some of these women would have been originally trained in some way or other, and would no doubt now need some refresher training or retraining. Others might have been only partly trained or have been in occupations requiring little knowledge or

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14. W.B. Sutch, Training for New Zealand's Future, Submission to the Commission of Inquiry into Vocational Training, 18 June, 1965, p. 26.

skill. For such persons there would need to be developed training programmes partly in industry and commerce and partly in the technical institutes, for occupations new to them, or occupations in which the changes in the past 20 or so years call for what would virtually be a new training. 15

Provision has been made for the development of future technical institutes. Associate institutes and new institutes in provincial centres will open when necessary, but their relationship to the existing institutes will depend on conditions and needs. They could develop as parallel institutions, or they could cater for the more junior levels of training with, perhaps, some specialisation in one or two major areas.

The effectiveness of the training given in the technical institutes will depend very much on the educational standard of the trainees upon entry. It is likely that secondary courses will be broad in scope with little specialisation, but providing a diversity sufficient to cater for the differing interests and abilities of all pupils.

The development of the roll of the Universities as the main agency for technological training and the

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15. Report of the Commission of Inquiry into Vocational Training, October, 1965, (Wellington: Government Printer, 1965), p. 52.

relations between the technical institutes and the Universities, will also be important in the future. As the technical institutes broaden the range of their courses and undertake more advanced work, problems concerning the placement of courses will arise more frequently. Arguments have been put forward to have degree courses established in the technical institutes. Whether or not this will happen, will depend largely on future demands for courses, but the best interests of the country must be fully considered in any future moves.

During the next twenty-five years the advance of technology will bring far greater changes than during the last twenty-five years. Most nations today, are development-minded and the less developed of them are making tremendous advances. New Zealand, with its limited natural resources, will have to place a greater value on the development of human resources. For this, there must be a greater recognition by society of the social and economic demands of the future and an acceptance of the need for education by the nation as a whole.

The strengths and weaknesses of a system of education in which state-controlled schools staffed by state-educated, state-trained teachers cater for almost all of a nation's children must be those of the nation. That is an inescapable fact. 16.

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16. Phoebe Meikle, School and Nation (Wellington: N.Z.C.E.R., 1961), p. 38.

APPENDIX

## APPENDIX A

Recommendations of the Committee on New Zealand Universities with regard to the position of Technology in New Zealand Universities and Agricultural Colleges.

{ Extract from the Report of the Committee on }  
{ New Zealand Universities, December, 1959, }  
p. 85.

1. That the science departments of the universities be expanded as a matter of urgency to provide for the increased number of scientists required by the schools, universities, and industry.
2. That the universities should include more of the applied sciences, such as industrial chemistry, applied physics, industrial microbiology, biochemistry, and metallurgy in their degree courses.
3. That the universities should include more technological subjects such as industrial design, food, wood, wool, leather, and building technology in their degree courses.
4. That the universities give consideration to the increasing need for courses in the principles and techniques of business and industrial management, at both the degree and diploma levels, and as a special need, at the advanced business management level.

5. That consideration be given to the introduction of chemical engineering at the Auckland Engineering School, and the possible elimination of aeronautical engineering if on inquiry future demand would not seem to justify its continuance.
6. That consideration be given to concentrating all engineering education in the South Island at the University of Canterbury.
7. That a joint University-Department of Education liaison committee be set up, of equal numbers from each, with a chairman from the Grants Committee, to define the respective responsibilities of each in the education of the middle-range technologist group.

## A P P E N D I X B

Technicians' Certification Authority(a) Terms of the Act

- (i) The Authority consists of:
  - (a) One member appointed by the Minister of Education as Chairman of the Authority.
  - (b) Two members, being officers of the Department of Education, appointed by the Minister.
  - (c) Two members appointed by the Minister on the nomination of the Technical Education Association of N.Z., of whom at least one shall be the Principal of or a teacher in a technical education institution.
  - (d) One member appointed by the Vice Chancellor's Committee of the Universities of N.Z.
  - (e) Two members appointed by each Executive Committee for the time being established under the Act.

(11) Executive Committees:

The Authority may from time to time with the prior consent of the Minister establish an Executive Committee in respect of any occupational group it may specify to assist it in prescribing courses and syllabuses and conducting examinations appropriate to the needs of persons in that occupational group; and may at any time abolish any such Executive Committee.

Every Executive Committee shall consist of:-

- (a) The Chairman of the Authority
- (b) The Director of Technical Education
- (c) One member appointed by the Technical Education Association of N.Z.
- (d) Such additional members not exceeding six, as the Authority thinks fit, appointed by the Authority on the recommendation of bodies selected by the Authority as representative of the various occupational groups in respect of which the Committee is established.

## A P P E N D I X C

New Zealand Council for Technical Education

Early in 1965 amendments were made concerning the appointment of members. These had two main effects:

- (a) to limit the term of office initially to five years of members nominated by outside organisations and appointed by the Minister;
- (b) to provide for the following permanent members ex officio:
  - (i) The Director of Education or his nominated representative;
  - (ii) The Chairman of the University Grants Committee;
  - (iii) The Commissioner of Apprenticeship;
  - (iv) The Chairman of the State Services Commission or his nominated representative.
  - (v) The Secretary of the Department of Industries and Commerce or his nominated representative.

## A P P E N D I X D

New Zealand Council for Technical Education  
Members

- Dr. R.W. Harman, Chairman, 88 Long Drive, St. Heliers,  
Auckland, E.1.
- Dr. B.C. Lee, Department of Education, Wellington.
- Dr. F.J. Llewellyn, University of Canterbury,  
P.O. Box 1471, Christchurch.
- Mr. F.W. Petre, The Shell Co. of N.Z. Ltd., A.M.P.  
Building, Wellington.
- Mr. R.H. Stewart, P.O. Box 1367, Christchurch, C.1.
- Mr. J.L. Broun, Ford Motor Co. of N.Z. Ltd., Lower Hutt.
- Mr. F.M.H. Hanson, Ministry of Works, Wellington, C.1.
- Mr. D.W. Lyall, Christchurch Technical College,  
Barbardoes Street, Christchurch, C.1.
- Mr. R.C. Savory, P.O. Box 11030, Ellerslie, Auckland, S.E.6.
- Mr. K.M. Baxter, P.O. Box 6161, Wellington, C.2.
- Mr. E.R. Clark, P.O. Box 232, Christchurch.
- Mr. H.C. McQueen, Department of Labour, P.O. Box 6310,  
Wellington, C.2.
- Mr. N.C. Angus, Public Service Commission, Wellington.
- Mr. G.C. Palliser, Secretary, Department of Education,  
Wellington.

## A P P E N D I X E

Chronological List of Work Accomplished By The  
New Zealand Council for Technical Education.

NOTE: The Council has dealt with a great number of additional minor matters which were not listed.

September, 1958: Cabinet approved the setting up of the New Zealand Council for Technical Education.

December, 1958: Inaugural meeting.

1959: Various members of Council accompanied the Minister of Education on his tour of industry. A sub-committee of Council, which had investigated submissions by joinery manufacturers, reported and as a result a member of Council chaired a joint meeting between builders and joiners. The Council discussed with the Technicians' Certification Authority examinations for draughtsmen and set up a sub-committee on training of chemistry technicians. Cross crediting by Universities of technicians, training of technical teachers and courses in a number of subjects were discussed and the Minister advised of the Council's views.

1960: A sub-committee to consider population growth, the output of schools and employment reported during the year. Bursary assistance and admission of holders of N.Z.C.E. to B.E. degree course discussed.

1961: 10th meeting - no major items discussed. 11th

meeting - discussion of Constitution of Boards of Governors of Technical Institutes. Dissatisfaction with secretarial services voiced at this meeting. 12th Meeting - New Chairman appointed. The following matters were discussed: Overseas travel awards for technicians; Bursary assistance for N.Z.C.E. holders taking a B.E. degree; Education of architects. Recommendations were made to the Minister on Governing Boards. The question of delays in financial approval for buildings was also raised.

1962: At the 13th and 14th meetings there was a full-scale discussion on the functions of Council which were revised and submitted to the Minister who approved them with minor modification. In May 1962 an Executive Secretary was appointed.

At the 15th and 16th meetings Council received a breakdown of expenditure on Technical Education. It set up a Committee to consider the implications of the recommendations relating to technical education of the Commission on Education and it approved the outline of a project to prepare for the Minister of Education a Five-Year Development Plan for Technical Education. Recommendations were made to Government on bursary proposals for New Zealand Certificate students at

University and technicians on block courses at the Central Institute of Technology, and the need to implement the new conditions of service in Technical Institutes as soon as possible.

1963: Business dealt with included - status of

Superintendent of Technical Education, training of technical teachers. A submission to the Minister of Council's views on the recommendations relating to technical education of the Commission on Education and in August presentation to the Minister by deputation of a 70-page report on the Development of Senior Technical Education; consideration of regional and national policy for development of Technical Institutes - a sub-committee was set up to consider this in detail; developments in Auckland; governing body for T.C.S; locating new Courses; development of a School of Printing.

1964: The relationships between Regional Institutes and the Central Institute of Technology considered in detail at normal meetings and at a Special Meeting. Other major business included; survey of Industry in Auckland to determine needs for training in Quality Control; advice on catering education; location of physics and biology course; the place of trade courses

at the Central Institute of Technology; the form of  
Control of the Technical Correspondence Institute;  
The terms of reference of the Commission of Enquiry on  
Apprenticeship; rolling programme for Technical Institute  
buildings.

## A P P E N D I X F

Recommendations Concerning Technical Education

(Extract from the Report of the)  
(Commission on Education in New)  
(Zealand, July, 1962, pp. 398-400)

- (1) That a subdivision for technical education be created within the Education vote and a vigorous programme of technical building and technical development in accordance with existing plans be pressed ahead.
- (2) That professional technical staffing at the Department of Education, Head Office, Wellington, be augmented for this purpose and a technical research unit be established there to assist the proper functioning of the New Zealand Council for Technical Education.
- (3) That the separation of senior technical education from secondary education be pushed ahead as fast as the development of the metropolitan technical colleges permits, that a separate scale of salaries and separate conditions of service be established for such institutions, as recommended in the Interim Report of the Commission, and that payments in polytechnic branches of secondary schools to full-time and part-time instructors be reviewed in the light of these changes.

- (4) That a committee be set up representing the Department of Education, the governing boards of schools concerned, and the teachers' associations involved, to consider the revision of the Manual and Technical and the Free Place Regulations as they affect evening classes.
- (5) That the Department of Education and the National Council for Adult Education coordinate measures for the future development of adult education as far as this concerns evening classes or classes in tertiary institutions controlled by the Department.
- (6) That provision be made for the appointment of a deputy principal, to take charge of the polytechnic department, in large secondary schools where the polytechnic is approaching the dimensions of a separated technical institute.
- (7) That the establishment of a hostel attached to the Central Institute of Technology be considered as urgent.
- (8) That further consideration be given to the provision of amenities in keeping with the needs of adult students in large polytechnic departments.
- (9) That increased provision be made for workshop

maintenance staff and ancillary technicians in all institutions concerned with technical training, and that consideration be given to special library facilities and the appointment of librarians and library assistants in this field.

- (10) That full-time technical teachers, on appointment from industry, should be given a period of up to two months' preparation and training before taking over classes, under the supervision of heads of department.
- (11) That regular in-service or on-the-job training be provided for all types of full-time and part-time technical teachers; and that a scheme be devised to enable full-time teachers to return to industry for short periods to refurbish their technical knowledge and experience.
- (12) That selected teachers from technical high schools, recruited from industry without previous training, be enabled to attend, at the teachers' colleges, the one-year training course adapted to suit their requirements, for all or part of the year, under conditions that take into account their maturity and domestic circumstances.
- (13) That assistance to technical teachers in the way

of teaching aids and detailed guidance with schemes of work and syllabuses be increased under the direction of the curricular section of the Department of Education.

- (14) That suitable textbooks for trade apprentices be prepared on the lines of those provided for motor and building apprentices.
- (15) That qualified organising teachers be appointed to give guidance and advice, particularly to part-time instructors in smaller centres and country areas.
- (16) That more attention be given to the technical training of girls as operatives and technicians in industry.

## A P P E N D I X G

Proposed functions of the Suggested  
"Vocational Training Council"

{ Extract from the Report of the  
{ Commission of Inquiry Into  
{ Vocational Training, October, }  
1965, p. 43. }

- (a) To recommend to other statutory bodies - apprenticeship committees, technician authorities, the Department of Education - action to be taken:
- (i) for the increase of reduction in numbers of apprentices and trainees in specified occupations to meet forecast needs;
  - (ii) for the development of training programmes in technical institutes and the like;
  - (iii) for the location of sites for institutions for technical training.
- (b) To ensure that planning and coordination of training schemes will cater for future needs for periods of, say, 10 years at a time.
- (c) To prepare reports on training schemes undertaken within industry itself, and to make these reports widely known in industry.
- (d) To draw attention to the need for training in occupations where there is no awareness of the need.

- (e) To initiate training and retraining schemes in occupations where no controlling authority exists, e.g., for semiskilled workers.
- (f) If a system of levies is introduced, to administer the system with the aid of committees of industry, and subject to such Ministerial approval as may be necessary if public finance is involved.
- (g) To encourage the award of travelling scholarships to enable suitable trainees in all types of occupations, and teachers, to gain overseas experience.
- (h) To ensure that, where industry and Government Departments are both training people for the same occupations, there is proper coordination of training plans.
- (i) To foster research into technical training.
- (j) To keep in touch with overseas developments.
- (k) To carry out such other functions as may be assigned to it otherwise howsoever.

## APPENDIX H

Maori Apprenticeship Training Schemes

{ Extract from the Report of the  
 Commission of Inquiry Into  
 Vocational Training October,  
 1965, p. 68. }

The seven trades covered in the schemes are:

<u>Trade</u>	<u>Location</u>	<u>Annual Intake of Boys</u>
Carpentry	{ Auckland	24
	{ Lower Hutt	24
	{ Christchurch	24
Plumbing	Auckland	12
Electrical wiring	Auckland	12
Motor mechanics	Auckland	12
Panelbeating	Christchurch	12
Painting and Decorating	Christchurch	12
Plastering	Lower Hutt	12
Total intake		<u>144 boys</u> annually.

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