

Chapter 9

EDUCATION

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Chapter 9

EDUCATION

In 1869 Tasmania became the first colony in the British Empire to make education compulsory. In 1898 school attendance was made obligatory between the ages of seven and thirteen and in 1912 between six and fourteen years. In 1946 Tasmania became the only Australian State to make attendance compulsory up to the age of sixteen, the starting age remaining at six. Late in 1984 amendments to the *Education Act* enabled the Education Department to provide education programs for severely handicapped children up to the age of 18 in places other than recognised schools.

Since 1945 the task of Tasmanian educational authorities, as in other Australian States, has been to provide more schools, more teachers, and better facilities within pressures to restrain expenditure and cater for a wider range of curriculum offerings. The principal factors exerting these pressures were a rapidly growing school population, changed attitudes to education resulting in increased demands for secondary and tertiary education, and general community acceptance of the need for better education.

In recent years the pressures have changed, with a rapid growth in unemployment, shrinking employment opportunities⁷ and technological changes placing new demands on education systems. In addition, the Federal Government has accepted a greater financial responsibility and provides funds through the Commonwealth Schools Commission and the Tertiary Education Commission.

Education in Tasmania is provided at primary, secondary and tertiary levels by government institutions and to secondary level by non-government schools.

In rural areas primary education is generally provided by small government primary schools and district high schools. Each type of school draws pupils from outlying localities. Transport is free, an example of the high priority given to meeting the educational needs of children in rural areas.

In primary schools, classes are usually heterogeneous with teachers devising programs for children of various ability levels. Pupils progress to the next grade on the basis of their individual



achievement and age rather than be promoted by their ability.

The primary school curriculum is designed to cater for the intellectual, physical, social and emotional development of children during their critical formative years. The curriculum emphasises the acquisition of basic language, writing and number skills within the wider context of developing a capacity to communicate, think and value. The school's task is to provide programs that enable each pupil to develop skills appropriate to his or her stage of development and that will foster further learning. These programs also provide for creativity and arousing the imagination as well as giving the opportunity to develop initiative and logical thought processes.

Education Department policy is directed towards integrating children with special needs into normal schools. Special schools provide for children with different forms of handicap and

who are unable to benefit from instruction in normal schools. Instruction varies according to the type of handicap. In cases of physical handicap the main need is to maintain normal or near normal individual programs. Schools and classes for intellectually handicapped children follow a program that is tailored to meet individual needs.

Current Education Department policy is directed towards educating children in their local communities. However, parents are free to choose which school their child attends. There has been positive discrimination towards country children and steps have been taken to make the secondary education available in district high schools comparable with that provided in urban areas. These steps include staffing district high schools more generously than high schools and establishing annexes of senior secondary colleges in four country towns.

The secondary curriculum provides a general, comprehensive education within a framework of subjects endorsed by the Schools Board of Tasmania. Most Year 7 and 8 pupils follow a common course developed by the school and suited to their needs. In Years 9 and 10 pupils choose a program that satisfies School Certificate requirements as well as allowing them to follow personal interests. Subjects generally are assessed at three levels.

The School Certificate is awarded as a result of a system of regional moderation which has been developed to ensure comparability of standards between schools.

Senior secondary colleges were developed to concentrate specialist Higher School Certificate teaching in a few centres. The students also benefit from an intermediate step between high school and tertiary education.

General admission policy of the colleges is one of 'open door' to most courses. In recent years there has been an increase in the number of students passing directly from high and district high schools as well as an increase in mature-age students studying HSC subjects.

Colleges, especially those in the Hobart area, have expanded significantly into the area of late afternoon and evening programming of classes for the large number of mature part-time students.

Candidates normally sit for Higher School Certificate subjects at the end of the fifth and sixth years of secondary education. The certificate is awarded as a result of assessments completed in November each year which are conducted by the Schools Board of Tasmania. Requirements

for matriculation are determined by the University of Tasmania.

Tasmanian Certificate of Education

As part of significant changes to the Tasmanian education system the HSC and Schools Board certificates will be replaced with the Tasmanian Certificate of Education and the method of student assessment will be altered.

The TCE, which will be a cumulative certificate covering years nine to 12, will be trialled on grade nine students in 1990 and will be fully operational by 1992. The new four year certificate will replace the present pass-fail system based on internal percentages and external HSC exam marks. Instead, a system of awards will be introduced which will be marked on the fulfilment of set subject criteria. The awards will be outstanding achievement (OA), high and satisfactory achievement, course completed, and fail. In addition, teachers will be required to write a comprehensive report on each student's competence in performing the subject criteria.

Students will also be required to keep a record of achievement for each year of their TCE. External exams will still exist in years 11 and 12 under the new certificate but the award system will be used, not credit, higher pass, fail ratings. Greater emphasis will also be placed on internal results and on other criteria such as being able to work alone, and using initiative. This will be combined to form a comprehensive portfolio for entry into the workforce.

The change in assessment procedures is designed to match and compare students to subject criteria rather than to each other.

A system of determining entry into tertiary institutions has not been finalised. The Schools Board is considering a points system for all matric level III subjects, called group C subjects. Group A and B subjects would be taken by students not wishing to go on to further education.

9.1 PRESCHOOL EDUCATION

Until 1969, government preschools were established on the initiative of groups of parents. The Education Department provided buildings but eventually recovered half its outlay from parents. From 1969 all new facilities for preschool education were provided in kindergartens attached to primary schools. There are now kindergartens which are part of primary schools and others which are not attached to primary schools. Education Department policy aims to provide kindergarten for children of four years and over on 1 January of any given year.

9.1 PRIMARY SCHOOLS, TASMANIA

Particulars	Government		Non-Government	
	1982	1987	1982	1987
Number of schools	170	166	40	40
Number of teachers (a) —				
Full-time	2 194	1 910	353	425
Part-time	85	235	45	69
Total	2 279	2 145	398	494
Males	530	517	67	96
Females	1 749	1 628	331	398
Number of pupils (b) —				
Males	21 395	18 777	4 144	4 676
Females	20 011	17 618	4 259	4 695
Total	41 406	36 395	8 403	9 371

(a) Full-time equivalents.

(b) Includes primary grades in combined primary and secondary schools.

Most preschools are conducted on a sessional basis (i.e. sessions of two to three hours for two to five days per week). Preschool programs generally favour the free play approach with emphasis on children's social and emotional development through creative activities. Parents often contribute by assisting at some sessions or by the purchase of play materials and educational resources.

At 1 July 1987 there were 173 government schools with attached kindergartens and 22 separate kindergartens with enrolments of 5 647 and 818 respectively.

Non-government kindergartens form a minor part of total non-government enrolment. The numbers are split fairly evenly between attached and separate kindergartens. Catholic schools have no kindergartens.

9.2 PRIMARY EDUCATION

Age of entry to preparatory classes is 5 years and for Year 1, 5½ to 6 years of age.

In Tasmania, government primary education caters for children from preparatory to Year 6. Government primary schools seldom enrol more than 600 pupils.

In 1987 there were 166 government primary schools. The majority (157) commenced with a preparatory grade and went to Year 6. There were a further 26 schools which were combined primary and secondary schools (district and

district high schools). Of the 36 395 pupils enrolled in primary grades in these 192 schools, 18 777 were males and 17 618 were females. These schools had 1 910 full-time primary school teachers and 235 part-time teachers in 1987.

Non-government primary schools seldom enrol more than 400 pupils, and usually have six grades and a preparatory class.

In 1987 there were 40 non-government primary schools. Only 75 per cent (30) commenced with a preparatory grade and went to Year 6. There were a further 22 schools which were combined primary and secondary schools. Of the 9 371 pupils enrolled in primary grades in these 62 schools, 4 676 were males and 4 695 females. These schools had 425 full-time primary school teachers and 69 part-time teachers in 1987.

The percentage of all school pupils who are enrolled in primary grades had been decreasing consistently in the 1980s; however, in 1987, the percentage started to increase. In government schools there had been a fall from 59.9 per cent in 1982 to 55.6 per cent in 1986 while in non-government schools the drop had been from 54.8 per cent to 52.5 per cent. However, the percentages in 1987 for government and non-government schools were 55.6 and 53.2 respectively.

The major cause of the falling proportion of students enrolled in primary grades was the lower birth rates of the 1970s. Higher birth rates in the 1980s will reverse the trend in the next few years (as can be seen in 1987) and continue into the 1990s.

Scotch Oakburn College Centenary

Scotch Oakburn College was established in 1886 originally as the Methodist Ladies College. As premises, an Elphin Road mansion, Oakburn House built by Eliza Thomson, was chosen. The college began with 25 students and by the end of the year it had 21 resident scholars and 67 day scholars. In 1979 it amalgamated with Scotch College which was founded in 1901 by the Presbyterian Church. Scotch Oakburn College now has more than 800 boarders and day students from kindergarten to HSC.

9.3 SECONDARY EDUCATION

Almost all children attend secondary classes starting at an age from 11½ to 13 years. The first four years of secondary education (Years 7 to 10 inclusive) are catered for in high schools or district high schools which are non-selective, comprehensive and provide a broad general education. All, except two high schools in Hobart, are co-educational. The School Certificate is generally gained at the end of Year 10. The final two years (Years 11 and 12) leading to the Higher School Certificate are completed in a secondary college or annexe.

The majority of students studying HSC subjects are in their fifth and sixth year of secondary education. However, an increasing number are mature-age students — people who have not been enrolled in secondary education for at least 12 months. The increase has coincided with a large increase in part-time enrolment at secondary colleges; in 1982 there were 1310 part-time students while in 1987 there were 2419 part-time students of whom 1972 were mature-age.

In 1987 there were 35 government high schools and 7 secondary colleges in the State. Thirty-four of the 35 high schools commenced at Year 7 and went to Year 10. All 7 secondary colleges had only Year 11 and 12. In addition, there were the 26 combined primary and secondary schools. Of the 28 153 pupils enrolled in secondary grades in these 68 schools 14 197 were males and 13 956 females. There were 2301 full-time secondary school teachers and 119 part-time teachers in 1987.

In 1987 only four non-government secondary schools operated. There were a further 22 combined primary and secondary schools. Of the 8 231 pupils enrolled in secondary grades in these 26 schools, 3 888 were males and 4 343 females. There were 539 full-time secondary school teachers and 97 part-time teachers in 1987.

The trend in secondary grade enrolment is the reverse of primary grade enrolment. As birth

9.2 SECONDARY SCHOOLS, TASMANIA

Particulars	Government		Non-Government	
	1982	1987	1982	1987
District and district high schools	26	26	—	—
High schools	34	35	30	26
Secondary colleges	7	7	—	—
Total schools	67	68	30	26
Number of teachers (a) —				
Full-time	2 280	2 301	424	539
Part-time	38	119	82	97
Total	2 318	2 420	506	636
Males	1 336	1 389	263	316
Females	982	1 031	243	320
Pupils —				
Year 7-9	18 665	17 433	4 484	4 902
Year 10	5 285	6 014	1 265	1 649
Year 11 and 12	2 941	4 706	1 174	1 662
Ungraded	—	88	—	18
Total	26 891	28 241	6 923	8 231
Males	13 715	14 250	3 246	3 888
Females	13 176	13 991	3 677	4 343

(a) Full-time equivalents.

rates fell in the 1970s the proportion of pupils in secondary grades rose. In 1982, 26 891 pupils were enrolled in government secondary grades accounting for 38.9 per cent of total enrolments. By 1987 this had risen to 43.0 per cent with 28 153 pupils enrolled. Corresponding figures for non-government schools were 45.2 per cent and 46.8 per cent respectively. Total non-government secondary enrolments, like primary enrolments, have increased 19 per cent over this period from 6 923 pupils in 1982 to 8 231 in 1987.

9.3.1 Retention Rates in Secondary Schools

Apparent grade retention rates are measures of the tendencies of students to remain in secondary education from Year 7 to Year 10, Year 11 and Year 12. For example, to calculate the apparent retention rate of students in Year 12 in 1987 the number of those students in 1987 is expressed as a percentage of the number of students in Year 7 in 1982 (1982 being the year in which the 1987 Year 12 students would have normally enrolled in Year 7). The retention rate thus derived is called an apparent retention rate because the method and calculation does not explicitly take account of net changes to the school population due to migration, nor of those students who spend more than one year in the same grade.

While non-government schools generally have much higher retention rates than government schools, there has been a closing in the gap between government and non-government schools for the Year 7 to 10 retention rate. This has been brought about by the difficult job market for early leavers in the 1980s affecting mainly pupils of government schools.

9.3 APPARENT RETENTION RATES SECONDARY SCHOOL STUDENTS 1987

Years	Male	Female
7-10	93.3	95.8
7-11	39.9	50.8
7-12	29.4	36.9

In government schools the Year 7 to 12 retention rate has increased from 24.4 per cent in 1977 to 30.2 per cent in 1987. The Year 7 to 11 rate has grown from 28.2 per cent in 1977 to 42.3 per cent in 1987. The Year 7 to 10 rate, however, reflects the poor employment situation with a rate of 80.1 per cent in 1977 increasing fairly steadily to 93.4 per cent in 1987.

In non-government schools the Year 7 to 12 rate has increased from 30.9 per cent in 1977 to 44.4 per cent in 1987. The Year 7 to 11 rate has grown from 44.3 per cent in 1977 to 56.6 per cent in 1987. The Year 7 to 10 rate, while showing fluctuations over the period, has moved from 90.3 per cent in 1977 to 99.1 per cent in 1987.

9.3.2 School Locations

Thirty-three per cent of government schools are in the Hobart statistical division, 13 per cent in the Southern statistical division, 28 per cent in the Northern statistical division and 27 per cent in the Mersey-Lyell statistical division.

For non-government schools 40 per cent were in the Hobart statistical division, six per cent in the Southern statistical division, 30 per cent in the Northern statistical division and 24 per cent in the Mersey-Lyell statistical division.

9.4 APPARENT GRADE RETENTION RATES, GOVERNMENT AND NON-GOVERNMENT SECONDARY SCHOOLS, TASMANIA

Year	Year 7-12		Year 7-11		Year 7-10	
	Government	Non-Government	Government	Non-Government	Government	Non-Government
1977	24.4	30.9	28.2	44.3	80.1	90.3
1978	23.1	31.5	28.9	46.2	83.3	91.7
1979	24.8	29.9	28.9	47.2	85.0	96.6
1980	25.5	33.6	28.8	46.2	87.7	96.2
1981	24.3	r 33.8	30.4	r 49.4	86.7	95.9
1982 (a)	18.9	36.7	27.9	51.0	86.8	98.9
1983	22.3	35.6	33.1	55.7	88.3	97.9
1984	24.8	40.7	34.6	53.9	89.5	99.5
1985	25.5	42.0	36.6	58.1	91.2	97.9
1986	27.1	44.5	38.1	57.2	91.8	98.3
1987	30.2	44.4	42.3	56.6	93.4	99.1

(a) Data used to calculate retention rates to years 11 and 12 in government schools exclude part-time students. The exclusion of these part-time students causes an apparent decline in retention rates to years 11 and 12 in government schools between 1981 and 1982.

9.4 TERTIARY EDUCATION

From 1974 to 1986 tertiary education was free for award courses in universities, colleges of advanced education and technical and further education institutions (excluding adult education). Tertiary administration fees were introduced by the Federal Government commencing with the 1987 academic year. The means tested \$250 a year (in 1987) fee applies equally to full-time and part-time enrolments. Part-time enrolments at the University of Tasmania dropped from 2 289 in 1986 to 1 786 in 1987.

9.4.1 University Education

The University of Tasmania is located in Hobart. Founded in 1890 it was the fourth university to be established in Australia. Teaching began in 1893 with three lecturers and six students, in Domain House, Hobart.

The University site at Sandy Bay was chosen in 1944. Temporary huts were used until 1957 and by 1973 all departments of the then eight faculties were housed in permanent buildings.

By 1986 the university had 11 faculties: Agricultural Science, Arts, Economics and

Commerce, Engineering and Surveying, Law, Medicine, Science, the Tasmanian School of Art, the Tasmanian Conservatorium of Music, the Centre for Education and the Centre for Environmental Studies. In 1987 the university council approved a plan to amalgamate the Centre for Environmental Studies with the Department of Geography (Faculty of Science).

Students will normally have completed a full secondary education. There are quotas on new enrolments in some professional courses such as medicine and pharmacy. Although there are provisions for mature-age entry the majority of students enrol straight from school.

The University offers full-time and part-time courses as well as external study. In 1987, 60 per cent of students were enrolled in full-time study. Bachelor degree courses comprised 74 per cent of total enrolments.

Campus Developments

During 1986 and 1987 several facilities were completed, continued or started. The installation of the 26-metre radio-astronomy antenna at Mount Pleasant, the extension to the Clinical School, the conversion of Henry Jones jam factory into the Centre for the Arts, a new sports pavilion and seven student houses were all completed and officially opened. Work started on a new earth-sheltered building for the Tasmanian herbarium and a large extension to the life sciences building.

9.5 UNIVERSITY OF TASMANIA, TEACHING AND RESEARCH STAFF (a)

	1986	1987
Teaching —		
Full-time —		
Professors	34.0	29.7
Associate professors, teachers	47.6	44.3
Senior lecturers, lecturers, teaching registrars	243.8	241.4
Assistant lecturers, demonstrators, tutors, teaching fellows	41.9	47.7
Total	367.4	363.1
Part-time —		
Senior lecturers, lecturers	5.5	5.3
Assistant lecturers, demonstrators, tutors, teaching fellows	14.3	14.0
Total	19.8	19.3
Research —		
Full-time	69.4	71.8
Part-time	—	—
Other —		
Full-time	506.4	491.9
Part-time	32.2	30.4

(a) Full-time equivalent units.

9.6 UNIVERSITY OF TASMANIA STUDENTS

	1986	1987
Full-time	3 479	3 457
Part-time —		
Internal	2 192	1 725
External	97	61
Total	5 768	5 243
Males	3 156	2 792
Females	2 612	2 451
Bachelor degree courses —		
Agricultural Science	55	50
Fine Art	220	239
Arts	1 081	1 011
Economics	265	199
Commerce	368	356
Education	518	432
Engineering	256	244
Surveying	42	55
Law	377	368
Music	78	90
Medicine	288	294
Pharmacy	66	69
Science	630	625
Total	4 244	4 032

Research

Like other universities, the University of Tasmania has a dual purpose, teaching and research. Research funds are received from the Federal Government through the Commonwealth Tertiary Education Commission (CTEC), from other public bodies and from the private sector. In 1986 expenditure on research was more than \$5 million received from:

Commonwealth Tertiary Education Commission	1 176 797
Public bodies, industry, private foundations, members of the community	3 824 497
Total	5 001 294

Research carried out in the University covers a wide range of industrial, commercial, environmental, health, education and community topics.

During 1986 the University was involved in a major research program into the production of synthetic fuels. The research was of a strategic nature and involved research collaboration with scientists in industrial, CSIRO and university laboratories and was funded from various sources. It has been recognised that in the years ahead, failing new oil discoveries, Australia's self-sufficiency in transport fuels will decline

rapidly unless synthetic fuels are produced via chemical conversion processes.

In 1987 work continued on the development of plans to establish the Menzies Centre for Population Health Research and a centre for antarctic and southern ocean studies.

9.4.2 Tasmanian State Institute of Technology

The Tasmanian State Institute of Technology is a multi-disciplinary higher education college centred in the Launceston suburb of Newnham.

In 1981 the Tasmanian College of Advanced Education transferred its base from Mt Nelson in Hobart to the Newnham campus of the Launceston Teachers College; that campus then became the centre for advanced education in Tasmania.

In 1985 the College was redesignated the Tasmanian State Institute of Technology to reflect its emphasis on the disciplines of Applied Science, Business and Information Sciences.

The growth of the Institute since 1981 has been rapid. In 1981 student enrolments were 1519 equivalent full-time students; by 1987 they had increased to 2 121, an increase of about 40 per cent. The number of academic staff also increased

9.7 UNIVERSITY OF TASMANIA: DEGREES CONFERRED

Higher Degrees

Award gained	1981	1986	1987
Higher Doctor	-	4	-
Doctor of Philosophy	23	26	23
Master	19	73	86
Total	42	103	109

Bachelor Degrees

Course	1981		1986		1987	
	Honours	Pass	Honours	Pass	Honours	Pass
Agricultural Science	9	9	2	5	5	5
Arts	32	167	25	123	34	148
Commerce	-	31	-	47	-	62
Economics	3	24	7	29	5	38
Engineering	7	15	10	34	10	38
Surveying	-	14	2	6	-	11
Education	-	30	2	80	4	95
Special Education	-	3	-	-	-	-
Law	4	24	4	29	3	33
Medical Science	-	39	2	44	2	53
Medicine/Surgery	2	34	3	34	2	34
Pharmacy	-	12	2	13	-	18
Science	46	110	62	106	47	105
Science/Engineering	-	-	-	1	-	-
Arts/Law	1	4	3	15	3	9
Commerce/Law	-	1	-	2	-	-
Economics/Law	-	1	-	2	-	4
Science/Law	-	-	-	-	-	-
Fine Art	-	-	-	22	-	21
Music	-	-	-	21	-	6
Total	104	518	124	613	115	680

from 140 to 177 in that period, while the number of general staff increased from 104 to 126.

Perhaps the most significant change has been the phasing out of 16 courses and the introduction of 11 new ones since 1981. Examples of the ongoing process of program change during this period involved the establishment of a new School of Nursing, a new School of Applied Computing, and a new Continuing Education Unit.

The School of Nursing was formed in 1981 in order to meet the changing vocational requirements of the nursing profession. A pre-registration course, the Diploma of Health Sciences in Nursing, and a post-registration course, the Bachelor of Applied Science in Nursing, were introduced. In 1988 there will be no further intakes of student nurses to northern teaching hospitals and the TSIT will assume responsibility for all pre-registration nurse education in the north of the State. By 1990 all registered nurse education in Tasmania will occur at the Institute. In 1988 the School of Applied Computing proposes to offer a new Graduate Diploma in Applied Computing (in addition to the existing Associate Diploma), while a Degree level course will be introduced in 1989.

An extensive program of building work has been initiated with the support of the State Government. In 1987 this involved the construction of teaching facilities and a 75 bedroom accommodation building. This initial program, which cost approximately \$5.8 million, will be supplemented in 1988-89 by the construction of further buildings and facilities costing \$3.3 million.

For many years the Institute has provided a limited range of short courses and seminars at tertiary level for students seeking a substantive program of educational or vocational enrichment, but who either do not wish, or are unable,

to pursue a full award course. In response to the clear need for expanded activities in this area, the Institute established the Continuing Education Unit in 1987. Additional major programs offered to date include a major seminar 'Tasmania in the Nineties', which brought together some of the State's leading economists, politicians, and business people; a requested course for fitness leaders titled 'Fitness Leaders Certificate Course'; and a program of 'Study Skills for Tertiary Education' which was aimed at meeting the needs of those returning to study and wishing to increase their skills and confidence before embarking on a tertiary course. Through the External Studies Unit and the Study Centres in Burnie, Devonport and Hobart, Tasmanians in all parts of the State are able to pursue a higher education whilst studying at home, with the back-up of regional study centres which provide tutorial assistance and a range of study facilities.

The Institute offers a wide range of applied research and consultancy services to the Tasmanian community. There are significant ongoing research programs in the areas of Applied Science, Architecture, Business Studies, Education and Nursing. In the field of Aquacultural research a project is presently underway, in close association with the Inland Fisheries Commission, to examine the commercial production of all-female Rainbow Trout. These fish will also be triploid and therefore sterile. Early maturation of trout can greatly enhance the fish farmer's potential production. If trials are successful, the production of sea-grown Rainbow Trout in Tasmanian waters will double. The first group of all-female triploid trout will be put in the sea in April 1988. Aquaculture scientists at the TSIT are also carrying out biological investigations on a new type of sea-farm cage. It is hoped that fish in this cage will grow faster than those in conventional cages.

9.8 TASMANIAN STATE INSTITUTE OF TECHNOLOGY ENROLMENTS, TASMANIA, 1986

<i>Field of study</i>	<i>Internal full-time</i>	<i>Part-time</i>	<i>External</i>	<i>Total</i>
Applied Science	113	48	-	161
Visual and Performing Arts	139	44	-	183
Architecture/Building	98	41	-	139
Commercial and Business Studies	154	133	448	735
Engineering	43	79	-	122
Social Sciences	75	12	-	87
Humanities	37	34	182	253
Paramedical Studies	79	107	41	227
Education	540	315	-	855
Total (a)	1 278	856	684	2 818

(a) Includes miscellaneous students.

9.4.3. The Australian Maritime College

The Australian Maritime College near Launceston is the only federally-funded college to be sited outside the ACT. Courses at the College range from certificates of technology to post-graduate studies.

The College fisheries courses include the Certificate of Technology in Fisheries Operations, which is designed to cover the knowledge requirements for the master of a large fishing vessel. The fisheries degree course teaches the importance of conservation and management of fisheries resources and also covers the marketing side of the industry. Aspects such as fisheries biology, fish chemistry, seafood handling, processing and marketing and fisheries management are covered.

The Bachelor of Engineering (Maritime) is the only full-length engineering degree offered in the north of the State. It gives specialist training, fitting graduates for careers in ports, harbours and offshore.

The College also offers courses leading to careers in the merchant navy as an Integrated Rating, or a navigating or engineering officer. Students on these courses are selected by the maritime industry through cadetships.

The Bachelor of Applied Science (Nautical Studies) offers options in ship science, hydrography, navigation and environmental science, and in sea transport and maritime business.

Between 1978 and the end of 1984 the Australian Government invested some \$30 million in developing the two College campuses and installing specialised training facilities. The AMC now has the finest collection of specialist resources for maritime training in the Southern Hemisphere. Facilities include: ship handling, radar and diesel engine simulators; a towing tank and flume tank; a sea transport centre with microcomputing facilities; engineering and electronics workshops; fish biology laboratories and training vessels.

9.9 AUSTRALIAN MARITIME COLLEGE ACADEMIC STAFF AND STUDENTS

	1985	1986
Academic staff —		
Full-time	47	47
Students —		
Full-time	667	666
Short-courses	591	818

The College's consultancy company, AMC Search Ltd, also makes use of these facilities to provide a wide variety of advisory research and

design services to the maritime and fishing industries. Work already undertaken by the company has included port modelling, testing of underwater objects and the design and conduct of special courses to suit clients' needs.

The Company has recently won contracts to model the Port Hedland Maru — a 251 000 tonne bulk carrier — for the Port Hedland Port Authority, flume tank testing of a side scan sonar for the Royal Australian Navy, hydrographic surveying at Port Latta and another contract to model a 60 000 tonne bulk carrier for the Queensland Department of Harbours and Marine.

9.4.4 Technical and Further Education

Technical and further education, which includes adult education, is provided at colleges at Hobart, Launceston, Devonport, Burnie and Queenstown and a number of separately provided but administratively linked adult education centres run by the Division of Technical and Further Education of the Education Department. Centres in Smithton, Scottsdale, Campbell Town, Oatlands and Huonville provide a more limited range of course offerings.

Technical Education

Technical courses cater for the vocational education and training needs of Tasmanians. The courses are designed in consultation with industry and on successful completion a student is awarded a certificate by the Education Department. A number of these courses have been nationally registered by the Australian Council of Tertiary Awards. In 1987 a new State TAFE accreditation system was introduced.

Associate diploma courses meet the increasing needs of para-professional personnel in areas such as engineering, accounting, computing, child care and social welfare.

Trade courses combine theoretical and practical aspects of the trade and are complementary to employer training given to apprentices. Post-trade courses are available to extend the skills and knowledge of trades people.

Vocational courses provide for non-apprentice training and include fashion, clothing manufacture, supervision, commercial and secretarial studies.

Correspondence courses for isolated students and others who are unable to attend regular classes are administered through the Hobart Technical College.

In 1985 total enrolments were 19 882 in technical courses.

Adult Education

Adult Education operates throughout Tasmania with major centres in Hobart, Launceston, Devonport, Burnie, Queenstown and Campbell Town. The southern centres at South Hobart, Eastern Shore/Rosny/Rokeby, Glenorchy, Kingston and the Huon now operate under the Domain House College of Adult Education with enrolments, administration and enquiries centralised at Domain House. Small centres operate at Oatlands and Wynyard.

A wide range of activities from whole term courses to full weekend, single day or shorter workshops is offered. Residential activities in the form of weekend workshops and longer summer school activities from The Grange Residential College at Campbell Town also feature. Subject areas include creative and performing arts, home skills, work and business skills, languages, personal well-being, owner builders, Aboriginal Education, Migrant Education, basic education/literacy etc. A feature of its work is to initiate innovative programmes and respond to community needs.

In 1987 Adult Education activities attracted 43 773 students to its programmes around Tasmania, reflecting the rapid growth since the late 1970s.

9.5 FUNDING

In recent years the Federal Government has provided the State governments with substantial financial assistance specifically for schools, universities, colleges of advanced education and colleges of technical and further education. In addition, the Federal Government has administered Australia-wide schemes of financial assistance for students for many years.

Primary and secondary education is free in government schools. Fees for the hire of textbooks and other school equipment, however, may be charged, particularly in secondary schools. The State Government provides financial assistance to parents under specified conditions for educational expenses. Assistance includes various types of scholarships, bursaries, transport and boarding allowances, many of which are intended to assist low-income families.

The Federal Government also provides a number of schemes of assistance to facilitate access to education. The Secondary Allowances Scheme (SAS), which assists families on lower incomes to maintain their children in Years 11 and 12, has been considerably expanded recently. Some non-government schools offer scholarships and bursaries to assist students.

The State Government provides the bulk of funds for government schools out of general revenue and makes per capita grants to non-government schools. About one-fifth of the total public funding of schools is now provided directly by the Commonwealth through the Commonwealth Schools Commission. In consultation with the States, the Commission advises the Federal Government on the resource needs of both government and non-government schools.

At the June 1973 Premiers' Conference the States accepted the Federal Government's offer to assume full financial responsibility for tertiary education from 1 January 1974. The Federal Government also announced in its 1973-74 Budget the decision to abolish tuition fees but in 1986 introduced tertiary administration fees from the 1987 academic year.

9.6 LIBRARIES

Tasmania is served by a network of different types of libraries, almost all of which have some computerised information and cataloguing services.

9.6.1 The State Library

The purpose of the State Library of Tasmania is to provide a comprehensive library and information service to all sections of the Tasmanian community from both its lending and reference departments. As well as working closely with other libraries in Tasmania, the State Library has extensive links with libraries on the Australian mainland and overseas.

The State library system encompasses many different services including 'outreach' facilities such as Bookmobile and Hear-a-book.

Regional Services are provided by the Hobart lending library and six regional library systems, each of which is responsible for the management of all public library services within the municipalities forming its particular region.

9.6.2 Special and Academic Libraries

Government departments and large private companies often maintain a comprehensive technical library service for their staff, especially in the area of research. Special libraries vary greatly in quality, size and in the services they provide. Many of the smaller special libraries supplement the resources of the larger libraries and most actively encourage the public, as well as their own staff, to use their services.

The University of Tasmania maintains one of the biggest libraries in the State. Apart from the central University library most departments

provide a smaller, more specialised branch library for the use of their students and staff. The Tasmanian State Institute of Technology Library in Launceston is the only one of its kind in the north of the State.

9.6.3 Education Libraries

A large number of libraries is maintained by the Education Department throughout its primary and secondary schools.

Other educational libraries include: the libraries of the various administrative sections of the Education Department, The Curriculum Centre, The Southern Teachers Centre Library, libraries within Technical and Further Education and the libraries of Independent Schools.

9.7 MUSEUMS

9.7.1 Tasmanian Museum and Art Gallery

The Tasmanian Museum and Art Gallery has its origins in early scientific groups formed in Hobart Town in the 1820s and 1830s. In 1852 the Royal Society of Tasmania established a museum which was later vested in a Government Board of Trustees in 1885. The first building on the present site, on the corner of Argyle and Macquarie Streets, was designed by the city's best-known colonial architect, Henry Hunter (1832-1892), and completed in 1863. Later additions were made in 1889, 1901, 1966 and 1979. A new entrance in Macquarie Street was opened in 1987. This provides easy access for disabled people as well as a spacious foyer. The income of the Museum is provided mainly by an annual grant from the State Government. Over 130 000 people visit the Museum and Art Gallery each year.

The Tasmanian Museum and Art Gallery houses collections in the fields of fine and applied art, zoology, geology, botany, history, anthropology and applied science. It is an integrated institution concerned with the whole range of natural and human heritage with particular emphasis on Tasmanian exhibits.

The Museum's traditional function, and still the major part of its operation today, is to collect, conserve, study and display items of cultural or scientific value to the community. It now performs a wide variety of additional roles, which include a continuing program of travelling exhibitions and a school education service which utilises the *Musbus*, a van specially equipped for transporting museum displays. The Tasmanian Herbarium, housed in a new building completed in 1987 at the University of Tasmania, is part of the Museum.

The West Coast Pioneers' Memorial Museum at Zeehan has operated as a branch of the Tasmanian Museum since 1965. It deals with the history of the West Coast of Tasmania, with an emphasis on mining, and is visited by about 120 000 people each year.

Collections

Art: The Gallery has a comprehensive collection of Australian paintings, drawings, prints and sculpture from the early nineteenth century to the present day. The collection places particular emphasis on art of the colonial period in Tasmania, with large groups of paintings by Glover, Duterrau, Bull, Gould, Wainwright, de Wesselow, T.E. Chapman, Louisa Anne Meredith, Skinner Prout and others. There are also some important European works of the nineteenth and early twentieth centuries by Beechey, Bouguereau, Poynter, Rodin, Epstein, Sickert and Gilman. The collection of eighteenth and nineteenth century English watercolours is one of the finest in Australia. The Gallery also collects nineteenth and twentieth century prints and photographs.

The applied arts collection includes nineteenth century European and Australian costumes, silver, china and glass and the Easterbrook Collection of over 6000 Australian ceramics. Asian material includes a collection of jade carvings and Japanese netsuke.

History: The presentation of colonial history is highlighted by articles such as Andrew Bent's press of c. 1825 and Lady Franklin's sedan chair (c. 1840), and by a comprehensive maritime (including whaling) collection. A photograph collection covers the period from the mid-1850s to the present day. Coins and medals, including a collection of Greek, Roman and early British coins, and early time-pieces are other notable historical collections.

Anthropology: Tasmanian Aboriginal culture is represented by tools and artifacts, and rock carvings from Mount Cameron West in north-western Tasmania. There is a Melanesian collection assembled earlier this century, and representative Australian material.

Zoology: Present displays of vertebrate animals feature Tasmania's land mammals and birds, together with reptiles and marine life. Tasmanian invertebrates on show include insects, spiders, crabs, mollusc shells and sea stars. An extensive reference collection of Tasmanian animals is maintained for scientific study. The Museum safeguards many type specimens (original examples on which descriptions of new species have been based).

Geology: Rocks, minerals and fossils of predominantly Tasmanian origin are on display. Notable exhibits include the skeletons of *Wynyardia*, the 20-million-year-old marsupial from Wynyard, and *Zygomaturus*, a giant marsupial, and the world famous mineral crocoite from Tasmania's west coast. The reference collection houses rocks and minerals, including the Petterd Mineral Collection, and fossils, which include many type specimens, mostly from Tasmania.

Botany: The Herbarium is housed on the campus of the University of Tasmania. It includes specimens collected early in Tasmania's history by R.C. Gunn, many of which are type specimens. Other early collectors represented include Archer, Meredith, Milligan, Stuart and Spicer. The Herbarium's current holdings number about 120 000 specimens of Tasmanian plants.

9.7.2 Queen Victoria Museum and Art Gallery

The Queen Victoria Museum and Art Gallery was established by the Tasmanian Government in 1891. Since 1895 it has been vested in the Launceston Corporation and has received an annual State Government grant. Serving primarily the northern half of Tasmania, its public galleries contain collections and exhibits of special relevance to the natural and cultural environment of Tasmania. Education, research and information services are provided.

The Museum operates the only Planetarium in Tasmania. Regular sessions are conducted for both the general public and for school groups. The Museum also has its own air-conditioned theatre seating 166 people and a reference library of scientific and historical books and journals. The colonial painting collection is one of the finest in Australia and there are also extensive collections of Tasmanian animals, plants, artifacts, geological specimens, historical material, craft, decorative art and fine art.

The education office of the Queen Victoria Museum and Art Gallery provides a service to schools throughout northern Tasmania, lending a wide range of items for teaching aids and assisting with teaching programs in the public galleries. It also operates a small travelling bus which visits schools in the north and north-east of the State.

The Museum's main annexe is Macquarie House in Launceston's Civic Square. The displays within Macquarie House centre on Launceston's history, through the theme of its architecture. As well, the two smaller annexes at Launceston's

Cataract Gorge, the Band Rotunda and the Gorge Interpretation Centre, have displays emphasising the historic, recreational and cultural importance of the Gorge to the Launceston community.

The Museum has three temporary exhibition galleries which have a constantly changing display program. In 1987 there were 31 temporary exhibitions, 23 of which were produced within the Museum. As a part of the Bicentennial celebrations, the exhibitions program has been increased. Among these are: *Tasmanian Vision*, a major nineteenth century exhibition of art works from within Australia and overseas, documenting Tasmania's rich visual history.

In conjunction with International Museum's Day, a Children's Art Exhibition was held with an emphasis on the value in primary children's art.

Two new branches of the Museum opened early in 1987, as part of the Bicentennial celebrations. The Maritime Museum is in the architecturally unique Johnstone and Wilmot building built in 1842. This Museum features displays on Launceston's maritime heritage, illustrated with numerous photos, paintings and shipping relics including scrimshaw and models.

The Interactive Technology Museum also opened with participatory displays, demonstrating in an exciting and entertaining manner some of the fundamental principles of science and technology.

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