

NORTHERN TERRITORY

Introduction

The Northern Territory, with a population of 181,900 people and land area of 1,348,000 square kilometres, has a population density of 14 persons per 100 square kilometres. Educational services are provided to a diverse multicultural and multilingual population scattered over an area 30 per cent larger than the combined areas of New South Wales and Victoria. Many remote centres are accessible only by air or sea and others are often not accessible during the wet season from October to March. In the Northern Territory, 54.8 per cent of schools and 26.1 per cent of students are located in remote areas with varying degrees of access disadvantage.

The physical and social environment imposes exceptional access and cost disabilities. School-age children comprise 24.9 per cent of the total population – a greater proportion than in any of the other States. In 1996, there were 13,670 Indigenous students who comprised 34 per cent of the total student population of 39,789. As students are widely dispersed across the Northern Territory, the provision of many small schools, which are expensive to maintain and supply, is necessary. Additional costs in curriculum and language support staff and resources are incurred due to the diverse cultural nature of the student body.

Government sector

In 1996, there were 31,003 full time students enrolled in 144 government schools. This represented 77.9 per cent of Northern Territory students.

Northern Territory/Commonwealth issues

Disadvantaged schools program index of disadvantage

The Northern Territory applauds the decision of DEETYA to introduce the Australian Bureau of Statistics Index of

Relative Socioeconomic Disadvantage (ABS IRSED) in 1997. Unfortunately, differential weightings to reflect needs of socioeconomically disadvantaged students have not been implemented.

The Northern Territory allocates the DSP Component funding using the ABS IRSED and differential weightings are applied to take account of the relative poverty of its students. The DSP Index was reviewed by the MCEETYA TOSS and recommendations to adopt IRSED were made to DEETYA with weightings to reflect different levels of socioeconomic disadvantage to allocate DSP funding.

Country Areas General Component resource allocation formula

The formula used by the Commonwealth to allocate funding for the Country Areas General Component in 1996 continues to allocate funding to students in close proximity to major population centres at the same level as those with much greater access disadvantage.

This formula was found to be inequitable by the Tomlinson review (1985), Ashenden and Milligen (1993), and Rousseaux (1993) and this has been continually referred to DEETYA in an attempt to rectify the situation. For example, persons 151 kilometres from 10,000 population centres are resourced at the same level as persons who live in excess of 1,000 kilometres from a centre of the same size. Students in remote areas in all States and the Northern Territory are disadvantaged by this formula. Many of these remote communities also have significant numbers of the most socioeconomically disadvantaged populations in Australia, including Indigenous people.

The Northern Territory allocates its Country Areas General Component funding on the basis of relative access disadvantage using the GSAF, thus ensuring those students with the greatest access disadvantage receive the most assistance. The GSAF was put forward as the preferred option for allocating Country Areas General Component funding to Ministers and to DEETYA by TOSS in 1996,

after positive assessments by Queensland, Tasmania and the Northern Territory.

Initiatives

National Asian Languages and Studies in Australian Schools

To supplement the financial contribution made by the Northern Territory government in the key learning area of languages, the Commonwealth NALSAS funding for the Northern Territory was directed to the following areas:

- individuals and schools received funding for programs of study to upgrade language proficiency skills of teachers;
- teachers participated in the NPDP Including Studies of Asia Across the Curriculum to upgrade their knowledge and skills for the teaching of studies of Asia in schools;
- primary schools in urban centres were involved in an ongoing professional development program based on the use of the PALS materials; and
- after hours classes for languages were set up to provide additional opportunities for students to access the learning of languages other than English.

These programs contributed significantly in assisting the Northern Territory to work towards the achievement of its own goals for languages and the studies of Asia and the stated targets for the NALSAS Strategy for 1996.

Outcomes profiling

The Profiling Pilot Program which was wound up in 1996, revealed the need for Northern Territory curricula to be more closely aligned with the learning experiences, outcomes and learning continua identified in the nationally developed statements and profiles and that Northern Territory Outcomes Profiles needed to be developed to ensure implementation of outcomes profiling would be manageable.

Through the structures of the Northern Territory Board of Studies which encourage and facilitate teacher and community input into curriculum decisions and development, draft Northern Territory Outcomes Profiles were developed in all eight learning areas and English as a second language. Foundation and life skills profiles in English, mathematics and science were also developed for students with special needs.

The Northern Territory Outcomes Profiles maintain the standards set in the nationally developed documents. However, some changes were made to meet Northern Territory priorities and policies.

Northern Territory students play Scrabble in Indonesian as part of the Indonesian language program.

Early in 1996 all Northern Territory schools were informed of the Board's intention to implement outcomes profiling commencing in 1998. Schools were asked to identify their professional support and other needs to meet the time-line set by the Board. On the basis of this, an Action Plan was drawn up and an implementation monitoring group was established. Documentation was produced to ensure consistent information was made available to schools.

In summary, the major thrust for 1996 was materials production; development and distribution of profiling information and time-line; establishing a Departmental infrastructure to monitor uptake and provide support for schools; and the provision of professional development.

Key competencies

The explicit inclusion of relevant key competencies became a requirement for all new and revised Board of Studies Northern Territory Certificate of Education (NTCE) Stage 1 and Stage 2 courses. Fifty-eight such courses were accredited by the Board during 1996.

Northern Territory officers contributed to a national project to develop a CD-ROM professional development package on the key competencies.

Teachers in Industry Program

The Teachers in Industry Program continued into its third year with ten teachers involved in placements varying from two to ten weeks (eight teachers in 1995–96). A wide range of industry areas was accessed by teachers from both urban and non-urban primary and secondary schools.

Career education curriculum

A career education subject curriculum statement and a Board approved course of study in career education for years 9–10

were completed by the end of 1996 after several years of development.

Northern Territory Certificate of Education

During 1996, all necessary processes and procedures were successfully completed for NTCE to be issued from January 1997 by the Northern Territory Board of Studies to students on their successful completion of senior school studies.

The NTCE is a completion certificate provided to students who demonstrate success at two levels of studies. It replaces the South Australian Certificate of Education (Northern Territory) (SACE (NT)). The traditional links have been maintained with the SSABSA for students seeking higher education entry.

Commonwealth funded capital projects

In 1996, the Commonwealth contributed \$2.5 million towards four capital projects in Northern Territory government schools. This funding was to upgrade existing facilities and to relieve overcrowding in schools. Three of these projects commenced in 1996 and will be completed in 1997. The remaining project will be commenced in early 1997 and completed in late 1997. The most common types of work undertaken and facilities provided were the construction of permanent facilities to replace transportables and building additional classrooms, including a Special Education unit.

The Commonwealth contributed \$579,010 towards capital works in Catholic schools and \$278,428 in independent schools through programs administered by the Northern Territory joint Block Grant Authority. For Catholic schools, the work included senior science laboratories, refurbishment of amenities and support for a further five projects for a total of \$366,052 under the General Element. Under the Aboriginal and Torres Strait Islander Support Element, funding of \$56,000 was received for provision of classrooms. A further five projects totalling \$156,958 were completed under the QCATS Element.

For independent schools, the sum of \$110,299 was allocated to support two General Element projects. Under the Aboriginal and Torres Strait Islander Support Element a total of \$126,000 was provided to fund library equipment and male dormitories. A further two projects totalling \$42,129 were completed under the QCATS Element.

Both QCATS and Aboriginal and Torres Strait Islander Support Elements have been discontinued from the end of 1996. An additional \$59,090 was provided for administration costs incurred by the Northern Territory Block Grant Authority which is managed by the Catholic Education Office on behalf of Catholic and independent schools.

Catholic sector

In 1996, there were 4,924 full time students enrolled in Catholic schools. This represents 12 per cent of Northern Territory students.

There were nine Catholic urban schools (Darwin and Alice Springs), one rural school (Katherine) and five remote schools (all areas). Of the nine urban schools, three were secondary. At O'Loughlin Catholic College, year 12 students were enrolled for the first time in 1996. The remote schools include outstations and two Community Education Centres.

Initiatives

Retention and participation

All three Catholic secondary schools in the Northern Territory now have year 12 senior classes. As a result of the introduction of senior classes the system participation and retention rates are increasing. The Aboriginal and Torres Strait Islander Tertiary Aspirations Program (AITAP) which has been developed by the Curriculum and Assessment Division of the Department of Education, and funded under the Commonwealth AESIP, is functioning at one secondary college.

At remote Aboriginal schools there was an overall increase in the number of secondary age students undertaking access or formal secondary studies. Students studied Intensive English, Foundation and General Studies as well as secondary studies by correspondence.

A number of students from these schools attended St John's College, Darwin, as boarders. Students find it difficult to live away from their home communities and as a result many students go back to their homes without completing their schooling. Some return to adult studies at a later stage. In response to this problem, the need to provide mainstream secondary face to face schooling to Indigenous students in community schools is being addressed.

The Kumamadjiin unit at Sacred Heart School – Palmerston, continued to provide educational facilities for Aboriginal and Islander communities and, along with the units at

Catholic High School and Our Lady of the Sacred Heart School – Alice Springs, provided support for families and students in accessing education and in remaining at school. At the junior primary campus of that school, initiatives have been established to include Indigenous children in mainstream classes.

Decision-making and community participation

Catholic schools operated with assistance from school boards and/or other parent organisations. Through its staff members, Catholic education was represented on the Northern Territory Board of Studies and committees such as the Indigenous Education Consultative Group and the Block Grant Authority. Discussions continued with Aboriginal and Torres Strait Islander people concerning the formation of a Catholic Aboriginal and Torres Strait Islander education group.

ASSPA committees, parents and Aboriginal resource officers accepted greater responsibility for school initiatives and contributed to discussions with school staff regarding school programs.

Representatives from various areas of Indigenous education in Catholic schools took part in a workshop which reviewed the MCEETYA document, *National Priorities for Indigenous Education for the Next Triennium*. The purpose of the workshop was to discuss how the national goals could be interpreted, refined and put into action in Catholic schools in the Northern Territory. The workshop resulted in a greater understanding between the different groups involved in Indigenous education in Catholic schools.

Student mobility

The mobility of students, both from interstate and within the Northern Territory, continued to be an important issue. Of particular concern is the effect of this mobility on students with special learning needs and disabilities. When families move around with students who have identified disabilities and lose the network of family support and, in many instances, that of familiar trusted professionals, the anxiety increases for the students and tends to accentuate their difficulty in accessing education.

Aboriginal teacher education

The number of teachers studying at Batchelor College continued to increase, as teachers returned to upgrade qualifications. In the Remote Area Teacher Education (RATE) mode of study, students spend time at Batchelor

College and also back in their community. Trainee teachers also access studies through Deakin University in Geelong. All Catholic Aboriginal community schools now have at least two formally trained Aboriginal teachers on staff and school communities support others in training.

Mentor programs, which are extremely important as community schools move toward greater Aboriginalisation (Localisation), continued in 1996 with appropriate support and ongoing professional development provided to beginning teachers and leaders. These programs were continually reviewed to ensure that the needs of the particular person and community involved were being met.

Aboriginal education in the urban environment

The Aboriginal education program concentrated on increasing and maintaining the employment of Aboriginal and Torres Strait Islander resource officers in each Catholic urban school. These officers were involved in ongoing inservice and professional development programs.

There was an increase in the networking of the Aboriginal and Torres Strait Islander community. The regular meetings of representatives from each school strengthened the Catholic Combined Aboriginal and Torres Strait Islander Committees group and encouraged the involvement of Aboriginal people in school programs. Cultural activities were implemented in all Darwin Catholic urban schools.

The collaborative planning of the Aboriginal education consultant, principals, special education and classroom teachers along with Aboriginal and Torres Strait Islander resource officers assisted individual student learning and ensured the needs and aspirations of the Aboriginal and Torres Strait Islander students were being met.

Gender education and the achievement of gender equity

A Catholic Education Office-based resource coordinator attended meetings and worked with schools on gender equity issues in relation to staffing and staff organisational practices. Catholic representation was included on the Northern Territory Board of Studies Committee which finalised the writing of the Gender Equity in Education policy document.

Equity initiatives

NEPS funding made available to the Catholic Education Council enabled initiatives in special education, schools

support; ESL, DSP and CAP to be implemented. Catholic Aboriginal schools and special education, joint intervention, continued to have access to NEPS funding through the Northern Territory Government.

Services for supporting targeted students in the above mentioned NEPS-funded programs continued in urban schools. The priorities set for the Catholic sector were those of the Federal Government, with an emphasis given to the improvement of targeted students' literacy and numeracy levels. The schools submitted programs they wished to have funded under the different components of NEPS. The allocation of funding is a difficult task due to the educational value of proposed projects and the lack of adequate money to support the needs.

Literacy

The key objective of the literacy project in 1996 has been to help urban Catholic primary schools implement the First Steps Professional Development Program.

The Catholic Education Office has continued to support the schools by means of regular visits to all Catholic schools involved in First Steps, discussions with the tutors and through liaison with the Department.

Most schools' proposed plans are to implement the reading component in 1997 and the oral language component in 1998. The exceptions are schools in Alice Springs which are planning to implement both in 1997 and then to consolidate all four in 1998.

All First Steps schools were asked to gather baseline data for use by an external evaluator in late 1995. There were 12 schools chosen as case study schools. Two Darwin Catholic schools chosen as case study urban schools and one Catholic school was chosen as the remote school in the Alice Springs region. Information collected from this evaluation has not yet been released.

Languages other than English

Italian, Indonesian and Japanese languages were available to students in Catholic urban primary schools. Three primary schools were involved in trialling the PALS program. Chinese (Mandarin), French, Indonesian and Japanese languages were available in Catholic urban secondary schools. To support the Indonesian language program, cultural exchanges continued, with a group of secondary students travelling to Indonesia. A number of teachers took advantage of study programs to upgrade their language proficiency and three teachers took part in a successful arts tour in Ubud, Indonesia.

The Catholic sector combined its allocation of NALSAS funds with those of the Department of Education. Schools were able to access professional development as well as advisory and resource provisions. Several Catholic schools in Darwin were involved in the professional development program based on the use of the PALS materials.

In Catholic schools in remote Aboriginal communities, Arrernte, Murrinhpatha and Tiwi languages were taught within the context of the bilingual programs. Bilingual education programs in the community schools were broadened to include the latest resources in computer technology. In the two non-bilingual schools, the vernacular language plays a significant part in the teaching and learning process.

Mathematics

Mathematics continued to be a significant part of the curriculum and all primary schools participated in testing in mathematics. Secondary schools were also involved in the Northern Territory government testing programs and moderation procedures.

English as a second language

The ESL needs of Aboriginal children continued to gain greater recognition and efforts were made to address the English language teaching of these students from the perspective of its being a second or third language for them and, in many cases, a foreign language.

Catholic school staff continued to participate in two government professional development programs, ESL in the Mainstream and ESL in Anangu Schools, as whole-school developments.

Science

The schools in the Catholic sector view science as an important part of the total core curriculum. Staff take part in a range of professional development activities offered by the Northern Territory Department of Education and other professional bodies.

Science is a core subject T-10. Science teaching in the years T-7 is continuing and staff are gaining access to a wider range of teaching strategies focusing on problem solving. They are developing 'hands on' science in the years T-2 and working collaboratively in the classroom programs. There are growing initiatives to implement Primary Investigations as the foundational science course in primary classes.

Senior students have participated in excursions interstate, where they were able to take part in science and technology workshops and broaden their experiences.

Schools made use of the CSIRO Science Education Centre, Northern Territory Wildlife Park and the Channel Island Field Study Centre.

Technology

During 1996, Catholic schools continued to make use of information technology including networking of computers. Primary students continued to gain proficiency in computer applications. Technology beyond computing is also taught in the primary classes.

Courses in years 8–10 continued to use computers and other technologies to facilitate learning and encourage students to broaden their experience of the subject matter as well as gain insight into the possible future directions of technology.

A number of urban and remote schools have access to the Internet.

Students at risk

Three Catholic secondary schools received funding under the STAR Component of NEPS. The target group consisted of students identified as those most at risk of not completing secondary schooling.

The principal aim of the STAR program was to work towards improving the participation in education of disadvantaged young people.

The priorities and objectives against which outcomes were to be measured were:

- improved participation in schooling by 'at risk' students;
- maximisation of their school retention rate; and
- provision of an educational environment that develops self-discipline and respect for the rights of others, that is conducive to maximum learning, while allowing for different attainment levels depending on ability, and prepares students for the world of work.

Gifted and talented

The Catholic Education Office continued to be involved in developing policy and curriculum documents across the sectors in the Northern Territory.

Four primary schools and one high school provided programs specifically targeted for gifted and talented students. The Catholic sector participated in a joint project initiated by the Armidale Catholic Education Office, under the Parents as Life Long Teachers program, and St John's College provided professional development and programming under a national grant.

Students with disabilities

Special education programs focused on services to improve educational outcomes. They emphasised inclusive practices and provided therapeutic and essential services within the mainstream environment to enable students to improve their participation in mainstream schooling and appropriate educational programs. A set of procedures covering the enrolment and support of students with disabilities was refined.

A feature of 1996 was the series of professional development inservice activities for teachers and administrators under the generic title, An Inclusive Vision. These were conducted in Alice Springs and Katherine regional areas as well as Darwin. This professional development training was offered jointly by the Catholic Education Office and the Department of Education. Mainstream and special education teachers across the three sectors, as well as the Department's office-based support staff, attended these sessions.

Independent schools

In 1996, there were 3,050 full time students enrolled in 12 independent schools, which was seven per cent of Northern Territory student enrolments. There has been recent growth in Palmerston, a satellite town to the south of Darwin and in the Darwin rural area, as well as improved provision for isolated communities.

Table 95. Number of primary and secondary students and number of teachers – NALSAS program

<i>Language</i>	<i>Number of primary students</i>	<i>Number of secondary students</i>	<i>Number of teachers</i>
Indonesian	496	587	5.2
Japanese	153	41	1.8

Source: Northern Territory Department of Education

Independent schools provide quality choices and contribute to equity issues in dealing with isolation, disability and Aboriginal education.

Initiatives

The independent schools sector received \$2,500 under the NALSAS program in 1996. The two languages taught in the schools were Indonesian and Japanese.

Not all schools teach a second language before year 6.

Independent schools strive to provide students with a comprehensive education to develop their intellectual, physical, social and spiritual capabilities and enhance their cultural awareness and participation in society.

Major priorities for 1996 were:

- provision of excellence in education through a diversity of curriculum offerings;
- acquisition and extension of literacy and numeracy skills;
- ongoing support for students from non-English speaking backgrounds;
- support for students with special needs; and
- the upgrading of both residential and day school facilities.

Classroom extension activities which were used to cater for the needs of gifted and talented students included classroom projects, field trips and construction of research projects. A project using year 8 students to prepare and present a preview of foreign language classes for primary level students was one form of cross-age enrichment. All of these activities proved to be very successful.

Other priority objectives included reviewing the role of the school council and networking the schools' computers.

Students' attitudes as they apply to the social objectives of schooling

Government sector

The processes of curriculum renewal and outcomes profile writing, conducted in all eight learning areas in 1996, have

contributed to a more complete identification of the social objectives of schooling in the Northern Territory's documentation. In response to directions set by the collaboratively developed statements and profiles, curriculum writers in the Northern Territory identified and described the processes of learning in, as well as the substantive aspects of, each learning area.

The emphasis on outcomes-based education and associated ideas of a learning progression and program articulation that feature in all curriculum and assessment documentation developed in 1996, will result in teachers in subsequent years to be able to more readily locate students' attainment on a continuum and to develop and apply strategies to move each of them further along. This approach will enable the social objectives of schooling to be fostered.

There are a number of positions and programs in central and regional offices which support the work of schools as they implement particular cross-curriculum Northern Territory Board of Studies policies which help contribute to the social objectives of schooling, for example, environmental education, gender equity, Indigenous Australian studies, education of gifted and talented students and provision for students with disabilities and impairments.

A report was published following a DEETYA-sponsored Violence in Schools forum held in Darwin in 1996 and which was attended by 22 students and 82 representatives from 20 schools, five Departmental divisions and parent organisations across the Northern Territory. Using a whole-school approach, seven schools participated in a gender and violence project in 1996. Their focus was to identify and implement policies and procedures designed to strengthen positive learning environments for all of their students. Whole-school community involvement was achieved by participating schools forming links with agencies such as police and health.

The Career Education Board Approved Course of Study was endorsed by the Northern Territory Board of Studies and published in 1996. An increasing number of schools offered VET programs with some element of vocational placement to their students in 1996.

Schools continued to involve students in a wide range of extracurricular community activities and competitions such as: Walk Against Want; National Aboriginal and Torres Strait Islander Day Observance Committee activities; Keep Australia Beautiful – Tidy Towns Award; the National History Challenge; the Earthworm Award; and E-teams (enterprise teams). E-teams were formed in six schools,

Students at Driver High School in front of a Land Care project opposite the school in Palmerston.

involving twelve teams of five students from years 10 and 11. E-team activities were judged to be very successful for participating students and for their host organisations and they will continue in 1997.

Participation either as individuals or as members of groups contributed to students' awareness of and progress towards a number of social objectives.

Catholic sector

Catholic schools have worked closely with Department of Education support personnel to implement cross curriculum initiatives, which help to contribute to the social objectives of schooling. Schools are involved in the Drug Abuse Resistance Education (DARE) program, programs for the gifted and talented, Asia in schools project and civics and citizenship education as well as the middle schooling project. Catholic schools provide educational support services for a range of students with disabilities.

Catholic schools were involved in the DEETYA-sponsored Violence in Schools forum in Darwin and participated in the gender and violence project in 1996. A central aim of each of these was to strengthen positive learning environments for all students. The VET program became more prominent in schools.

Schools provide an extensive cocurricular program to develop individual students' social abilities and encourage civic involvement. Schools across Darwin were involved in planning a week of festivities focusing on Aboriginal and Torres Strait Islander culture.

Independent schools

All independent schools sought to develop individual students' abilities, encourage positive self-esteem and prepare students to be good citizens. Several schools used

the Common and Agreed National Goals to assist in reviews of their own aims.

A priority objective for schools was to include parents and the broader community in collaborative efforts to enhance education.

The success of the schools in meeting their objectives was evaluated in various ways. The common factor between schools was inclusion of all members of the school – teachers, managers, parents and community representatives – in the evaluation process. Schools also looked to the Department of Education and various professional development courses for assistance in evaluating their performance.

Methods of evaluation ranged from informal discussions and retreats to more formal structured processes. Some schools reviewed their progress on a continuous basis while others conducted periodic full reviews. Some schools considered that there was a correlation between changes in direction and shifts in senior personnel appointments.

Geographically isolated students

Government sector

Department of Education schools, with the exception of Alice Springs School of the Air, are classified as CAP schools if they are outside a 75 kilometre radius of Darwin or Alice Springs. In 1996, this included over 100 schools with a total enrolment of approximately 16,000 students.

The Department addresses the specific needs of these students through the provision of significant resources which are supplemented by such programs as the Aboriginal Education Strategic Initiatives Programme (AESIP) and the Commonwealth Targeted and Quality Schooling Programmes.

Program delivery

Specific purpose programs

Many projects funded under CAP and DSP focused on educational service delivery through technology.

During 1996, over 100 schools in the Northern Territory, including many in remote locations, were connected to the Internet through a Commonwealth-funded project, Improved Access, Improved Opportunity.

Other projects focused on literacy and numeracy development, improved physical education and health facilities, transition to work opportunities and parent participation.

It is difficult to measure the effectiveness of such projects. However, approximately 85 per cent of schools have indicated substantial achievement toward the intended outcomes.

Aboriginal Education Strategic Initiatives Programme

In 1996, the Northern Territory Government spent \$80 million on providing education for Aboriginal or Torres Strait Islander school students. Additional funding of \$10 million from the Commonwealth Government through DEETYA was used to implement additional programs operated by the Department of Education.

The implementation of Indigenous education programs was monitored through a formal appraisal program and the activities of the Department's Aboriginal Education Operational Plan Monitoring Group. The program documents the activities undertaken and the extent to which outcomes were achieved. Appraisals for 50 per cent of the AESIP-funded initiatives have been completed.

Highlights during 1996 were:

- further development of primary level curriculum materials for use in remote schools and the development of secondary level materials for mixed-mode delivery;
- expansion of mentor programs for Indigenous staff; and
- further development of primary assessment instruments to provide feedback on Indigenous students' attainment.

Parents in education

Parent liaison officers assisted schools in developing policy and practice in parent participation, appropriate to their school community.

Student services

Provision of support to children and families in remote communities with special needs increased and personnel travelled to these communities on a regular basis to assess students and assist with developing and implementing educational programs such as:

- Pictographs in the Classroom, a professional development activity which proved to be valuable for assisting students with special needs to gain access to the learning environment;

- sensorimotor and language programs which benefited an estimated 25 per cent of students who were identified as having sensorimotor difficulties; and
- The Role of Phonological Awareness in the Development of Literacy Skills also continued to be a highly successful professional development activity.

Programs designed to train people in Indigenous communities to work with profoundly hearing impaired Indigenous students were also beneficial.

To assist all schools across the Northern Territory to implement the Special Education Policy, a project position was established by the Department and professional development programs were developed to provide inservice training to school staff and parents. The Northern Territory Board of Studies approved *Curriculum Framework for Present and Future Lifestyles* (Special Category) which provides for inclusivity, enhances the appropriateness of curriculum and pedagogy and provides for equitable outcomes for all students.

Guidelines were established to ensure standardisation of procedures across urban, rural and remote community schools. In establishing the guidelines, consideration was given to individual student needs, school resource provisions, proximity of additional services and size and location of the school.

Educational provision and resourcing

ESL teacher development

The Northern Territory is a challenging educational context for providing ESL programs due to a number of demographic and geographic factors which include:

- the wide geographic distribution of ESL learners, which affects recruitment and deployment of suitable staff and provision of advisory support;
- diverse teaching/learning contexts;
- the high proportion of students involved and their cultural diversity;
- the high proportion of first phase learners of English who are not new arrivals;
- first language maintenance in communities where these languages appear to be threatened;
- the increasing number of non-English speaking background Indigenous teachers working in schools;
- student mobility; and

- irregular attendance by some ESL learners.

Indigenous students make up nearly one-third of the student population, with over 13,000 enrolled in Northern Territory schools. Many of these students commence their schooling speaking an Indigenous language and do not begin learning English until their entry to school.

To supplement the funds provided by the Northern Territory Government for the education of ESL students, the Commonwealth provided funding under the ESL General Support Element of the NEPS.

This was used to implement the English as a Second Language Teacher Development Project (ESL TDP) which employed four coordinators during 1995 and 1996. They delivered the Northern Territory University accredited ESL in the Mainstream and ESL in Anangu Schools teacher development courses.

The project achieved several major outcomes including extended contact between isolated teachers, an increase in the number of Indigenous teachers trained in ESL teaching, and an improved awareness of the needs of ESL learners.

Distance education

The Schools of the Air in Alice Springs and Katherine continued to provide programs for geographically isolated primary students. A feature during 1996 was the significant increase in the number of Indigenous students from small remote communities enrolled at these schools. Also significant was the increase in the number of isolated students using the Internet to communicate with their teachers and with other students around the world.

The Northern Territory Secondary Correspondence School continued to provide courses for geographically isolated secondary students during 1996. Significant features were the use of videoconferencing and interactive studio graphics (Electronic Classroom™) and the development of compact disc resources for use by Indigenous students in remote communities.

First Steps

The Northern Territory continued its support during 1996 for the First Steps Professional Development Program – a resource which helps schools to achieve the literacy objectives of the Northern Territory English curriculum.

The Department received supplementary funding through the Commonwealth Early Literacy Component (ELC) of NEPS to implement the program.

Katherine School of the Air students at Marralam participate in computer activities.

Tutors and Focus Teachers, trained in 1995 and 1996 respectively, implemented the program and supported their colleagues in 71 schools across the Northern Territory. These schools included one-teacher schools, other remote community schools, and the Schools of the Air in Katherine and Alice Springs.

The program has resulted in significant positive outcomes for both teachers and students and has led to whole school change in many areas. A comprehensive external evaluation of the program will be completed during 1997.

Teachers and teaching

Teachers in geographically isolated areas

As at October 1996, a total of 950 full and part-time teachers were engaged in the delivery of educational programs to geographically isolated students in primary and secondary schools and Community Education Centres. The majority of these remote locations are found in Indigenous communities and teaching staff comprised Indigenous and non-Indigenous teachers and Indigenous assistant teachers.

Indigenous demography and geographical disbursement

The demographic characteristics of the Northern Territory's Indigenous population are quite different from those of the non-Indigenous population.

The Indigenous population tends to be younger, has higher birth and morbidity rates and is less concentrated in the larger urban centres. In terms of educational provision other key factors are:

- a higher than Northern Territory average projected population growth rate of two per cent;

- the higher proportion of people in the 0–14 age group; and
- the tendency for Indigenous people to be widely dispersed, necessitating the requirement for a relatively large number of schools and teachers in isolated communities.

The Northern Territory education system environment

The Northern Territory education system is comparatively small and is sufficiently flexible to accommodate organisational change to its recruitment strategies.

However, it is also handicapped by the diseconomies of its small scale, making it difficult to provide temporary relief from within its own resources to cover temporary teacher shortages, particularly in geographically isolated areas.

Staff retention and turnover in geographically isolated areas

The key issue of staff retention is considered vital to maintain consistency and continuing development of isolated school communities.

Aboriginalisation of teaching staff is developing at varying rates in schools across the Northern Territory and is a factor in recruitment and retention of suitably qualified local teachers to meet the Territory's labour market needs.

The Indigenous teacher training institution (Batchelor College) currently has 40 students in final year courses of the Diploma of Teaching and the Diploma of Education (Early Childhood). Many of these graduates will commence their teaching career in their home communities.

Remote area incentives

Incentives are provided to attract, recruit and retain experienced, professional and committed staff to remote areas, as well as provide respite from the comparatively isolated conditions which prevail in much of the Northern Territory.

Professional development

Priority professional development programs are conducted in each regional centre to provide easier access for teachers in remote schools. Funds are available for teachers from all localities to access programs. The programs for 1996 promoted the Department's Equal Employment Opportunity Management Plan, and included a range of programs and incentives.

Other incentives/programs provided and accessed by remote areas employees were: the Australian Full Time Study

Awards; the Employee Development Scheme (12 weeks paid professional development leave); and the Special Remote Study Leave which is an incentive scheme whereby employees in remote localities accrue points depending on the remoteness of the locality in which they are based: one to 5 points may be accrued annually. When 20 points have accrued, employees are entitled to apply for a semester on fully paid leave to undertake a relevant study program – eight teachers had a full year on half pay and 14 teachers had a semester on full pay. In 1996, Approved Student Status was granted to more than 117 employees studying in geographically isolated areas.

Catholic sector

Country areas

The Catholic sector in the Northern Territory encompasses 15 schools. Of these, five are schools in remote Aboriginal communities and apply for CAP funding through the Department of Education. Of the ten remaining schools, one is considered rural and receives funding through the Catholic Education Council. This rural school is one of a number of schools in the town which also has a secondary school conducted by the Department. This CAP school has a student population of just under 300 students from T–7. The school's education programs address educational disadvantage according to the guidelines.

The priority area identified for Commonwealth funding in 1996 sought to provide professional development for staff in the delivery of the Northern Territory Board of Studies curriculum and literacy initiatives, focusing on the First Steps literacy program.

The school community faces many challenges in being geographically isolated. A prime issue is staffing: there is a frequent and high turnover of staff, not only at the beginning of a term, semester or year but also throughout the year independent of term breaks. The majority of staff do not come from the Territory, whilst a high percentage of staff are recent graduates from institutions outside the Northern Territory.

Issues for the student community include limited access to cultural/social experiences, such as debating and student forums, which reinforce and enrich learning. For a number of students the culture of a school is foreign and this reflects the need for support in accessing the school curriculum. Another factor is the need to daily travel a considerable distance to attend school.

Numeracy

Government sector

The issue of numeracy, including a working definition, is currently under consideration within the Northern Territory system. Working groups are grappling with the notion of numeracy, particularly as it applies to students in Indigenous communities.

Participation in the development of a nationally-accepted definition of numeracy is also taking place by way of systemic responses to draft numeracy standards as they are currently being developed under the aegis of the MCEETYA Benchmarking Taskforce.

Time allocations to mathematics

The recommended minimum time allocation for mathematics is five hours per week for primary students and 400 hours over three years for junior secondary students.

At senior levels, the number of hours of mathematics study by each student depends on the particular course of study chosen.

Within the Northern Territory the study of mathematics is compulsory to the end of junior secondary education. At senior secondary level all students must study at least one semester unit which represents at least 60 hours of instructional time.

In general terms, the percentage of senior students studying mathematics has not displayed any consistent pattern of

Table 96. Secondary student participation in mathematics courses

1992	1993	1994	1995	1996
41%	45%	42%	44%	46%

Source: Northern Territory Department of Education

Table 97. Urban schools 1996 results, all schools, Stage 5 mathematics, number of students participating, average percentage correct

	<i>Female</i>		<i>Male</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
ESL	81	48	96	53
Non-ESL	949	65	1,051	67
Indigenous	162	49	172	51
Non-Indigenous	868	67	975	68
Total	1,030	64	1,147	65

Source: Northern Territory Department of Education

Table 98. Urban schools 1996 results, all schools, Stage 7 mathematics, number of students participating, average percentage correct

	<i>Female</i>		<i>Male</i>	
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
ESL	42	52	38	54
Non-ESL	897	58	914	60
Indigenous	104	43	92	41
Non-Indigenous	835	60	860	62
Total	939	58	952	60

Note: For Urban Mathematics, data have been disaggregated by gender and equity target groups (Indigenous, students of non-English speaking background).

Source: Northern Territory Department of Education

variation over the period from 1992. The percentages of the year 11/12 student cohort studying senior mathematics of any kind for the four years leading up to 1996 can be seen in Table 96.

Student outcomes in numeracy

Table 63 in Section 8 of the *National Overview* and Tables 97 and 98 show data from the 1996 Urban and Non-Urban Multilevel Assessment Program Mathematics tests.

For Urban Mathematics, Stage 5 has been chosen as being representative of year 5 students and Stage 7 has been chosen as being representative of year 7 students because the participation level is close to 100 per cent. For Non-Urban Mathematics, where students are predominantly Indigenous, there is no such distinction.

The tables show the number of students participating in the assessment and the average percentage correct which provides a context for comparison.

Teacher training and availability of trained teachers

Given that all of the southern States are predicting a shortfall in the number of trained secondary teachers available over the coming years, it seems highly likely that the Northern Territory, because of its relative isolation from southern capitals and the isolated nature of many of its schools, will experience difficulty in recruiting sufficient secondary mathematics teachers.

Data supplied by the Northern Territory University indicate that the Northern Territory is almost solely reliant on southern tertiary training institutions for its secondary mathematics teachers – the Northern Territory University

Students in a mathematics class at Stuart Park Primary School, Northern Territory.

trained either one and two senior mathematics teachers per year over the last three years. University staff advise that over this period, it has become increasingly difficult to attract candidates to embark upon a career as a secondary mathematics teacher – a problem not confined to the Northern Territory. Those few who have been trained locally have all remained in the Northern Territory system.

Catholic sector

Schools in the Catholic sector follow the Northern Territory Board of Studies suggested curriculum and time allocation for mathematics and the importance of mathematical and numeracy skills are emphasised. Students at a number of schools took part in the Australian Schools Mathematics Competition. Schools also take part in the NTAP-MAP (Northern Territory Assessment Program – Multilevel Assessment Program) tests. Results from these tests confirm that students are, on the whole, achieving an adequate level of numeracy skills.

In remote community schools and secondary schools with a significant Indigenous student population, students undertake courses which teach numeracy within a language cultural context.

Independent schools

All primary and secondary level students have participated in the mathematics curriculum in accordance with the recommended time allocation for mathematics. Student outcomes from the Australian Schools Mathematics Competition testing indicate that competency levels are in keeping with standards across the Northern Territory.

The results from the NTAP-MAP tests confirmed that there was a measured improvement in numeracy, especially for those students receiving extra tutoring support. Tests have

been devised to draw on the language and culture of rural communities.

Numeracy support is given to students with disabilities under the Special Education program with the assistance of teacher aides. Aboriginal students have received significant support under the Homework – Tutorial program.

All independent schools made use of the statements and profiles in framing their curriculum and assessment in this learning area. Most schools used the Northern Territory Board of Studies or Department of Education curriculum materials which are based on the statements and profiles. Schools commented favourably on the support available from the Department.

Most schools used external diagnostic services or achievement testing at particular year levels. Tests produced by the Department of Education were frequently used.

The information provided by the test results indicated the strengths and weaknesses of the course. This could then be used to influence the time given to specific concept teaching, resource needs and teacher professional development.

The introduction of Board of Studies courses which teach numeracy within a language/culture context was very successful.

The particular emphasis which schools placed on numeracy during 1996 reflected the student enrolment patterns in year levels and special student populations at the schools. However, all schools sought to encourage individual achievement. Time allocated to numeracy teaching and the development of teaching approaches were also areas of focus for most schools. Several schools commenced a review of numeracy curricula during 1996.

Professional development in numeracy at schools focused on implementation and use of the statements and profiles and on meeting the needs of special student populations. The Northern Territory Department of Education was praised by several schools for providing relevant and helpful inservice training sessions.

Independent schools take part in the government testing program.

Science

Government sector

Northern Territory Outcomes Profile for Science was compiled using the profiles for Australian schools as a

guide. The five strands from the profiles are incorporated, but the main changes are:

- reduction of the number of outcomes from six for Working Scientifically and three each for each of the conceptual strands, to one for each strand at each of the eight levels; and
- rewriting the outcomes in more user-friendly language, particularly suitable for use in reporting to parents.

Exemplars of achievement at the various levels of each strand in *Northern Territory Outcomes Profile for Science*, are derived from *Science – a Curriculum Profile for Australian Schools* (Curriculum Corporation, 1994) and *Student Work Samples in Science* (Curriculum Corporation, 1996).

Work continued on the development of science materials for Indigenous students. Primary materials are being extended to Stages 6 and 7, and junior secondary materials are also being written.

The primary materials give non-specialist teachers an idea of how to program for effective learning in the science area. This material, while following the same curriculum documents, is developed in a more appropriate Indigenous context.

Changed emphasis in the provision of science education

Two NPDP-funded projects, Understanding the Science Profile, which was developed by the Science Teachers Association of the Northern Territory (STANT), and Bio-diversity and Ecologically Sustainable Development, which was developed by the Northern Territory Chapter of the Australian Association of Environmental Education (AAEE), have been offered to teachers through the Renewing Teachers' Knowledge program at the Northern Territory University. Another program, Teaching for a Sustainable World, has been offered through the local chapter of the AAEE. Student work samples in science, the result of a NPDP project between the Australian Science Teachers Association and Curriculum Corporation, are referred to in the *Northern Territory Outcomes Profile for Science* as exemplary material.

The report of the 1995 NEPS investigation on gender-related barriers to the participation of girls in mathematics and science in the secondary school was circulated to all high schools.

Students at Darwin High School participate in a science class.

The Department continued to operate three centres – CSIRO Science Education Centre; Northern Territory Wildlife Park and Channel Island Field Study Centre in conjunction with other agencies, focusing on student learning and teacher professional development in science. Other outside organisations include Greening Australia, Keep Australia Beautiful, Waterwatch and Landcare. Both STANT and AAEE receive funding from the Department to support teacher professional development.

Trends in teaching and learning in science

Some schools are experimenting with grouping students for learning, through vertical timetabling and by groupings such as students of high potential and single gender classes.

Newly accredited courses in the postcompulsory years now incorporate a table of key competencies.

Northern Territory Outcomes Profile for Science includes a statement regarding students with disabilities, and the profile has been adapted to include Foundation and Life Skills Outcomes for special education students.

Strategies to involve teachers in professional development and continuing professional learning

Professional development is provided by officers through the Department's Programmed Activities in Professional Development – a calendar of programmed activities for a semester or the year – and on an individual basis through Departmentally-funded projects. It is also provided by the professional associations through conferences and courses at the Northern Territory and other universities.

Catholic sector

Initiatives are being developed to implement Primary Investigations as the foundation science course in primary classes.

Catholic schools made use of the CSIRO Science Education Centre, Northern Territory Wildlife Park and the Channel Island Field Study Centre.

Independent schools

The independent sector has a strong commitment to the teaching of science and schools are trialling courses in relation to the science statement and profiles. Science staff are continuing to upgrade their professional competency and are involved with the Department of Education program associated with the teaching of all moderated courses. Teachers are also involved with the Northern Territory Science Teachers Association. The schools continue to use the facilities of government and its agencies to examine water resources and land care.

Some new units of science are being developed from an Indigenous perspective in geology and environmental science. To cater for Indigenous students, schools place a great emphasis on the need for teachers to incorporate ESL methodology.

Success in the sciences results from the level of endeavour and maturity of students and some schools have grouped students with a career focus together to complete more advanced work. A full range of postcompulsory subjects is offered to independent school students.

The T-10 science programs are introduced as integrated, thematic studies in primary schools with a strong emphasis on practical and research-based activities.

Assessment and reporting includes the full range of assessment tools. The independent schools give strong encouragement for use of Australia-wide competitions as well as involvement in science seminars and conferences.

The particular emphasis which schools placed on science during 1996 reflected the student enrolment patterns, for example, year level and special needs, with a greater emphasis on participation than achievement. Recruiting teachers with specialist skills was a focus for those schools with a mix of primary and secondary level students.

Schools which carried out a 1995 review of their science curriculum, undertook a year of implementation and resourcing during 1996.

Other schools trialled various approaches to improved outcomes, such as team teaching, increasing the time allotted at senior level and adopting new approaches to teaching science. These approaches were sometimes combined to improve learning outcomes. An example of this was the encouragement of a teaching approach which explores thinking and problem solving in a way which enables students to relate their understanding to their own experiences.

Twenty-five per cent of schools took part in national or State science competitions including the Australian Schools Science Competition and the National Chemistry Quiz.

In most schools the usual classroom-based assessment was ongoing. Some schools engaged external assistance with program evaluation and development. Parents, staff and students were consulted through the evaluative process.

All schools used the statements and profiles in framing their curriculum as the starting point for discussing program development or as a guide to structure and content. However, only 75 per cent of schools used the national framework when forming their assessment plans.

Parental and community involvement in science included participation in information nights and community activities such as Clean Up Australia and We Care Week.

Both the CSIRO and the Department of Education inservice training sessions were cited as being excellent due to their hands-on nature and specific application to the curriculum. Other topics included the application of the statements and profiles, Working Scientifically and Programming Teacher Learning in Technology.