

NSWTF POLICY ON INFORMATION AND COMMUNICATIONS TECHNOLOGY IN EDUCATION

PART ONE – SCHOOLS

1. PREAMBLE

Value of ICT

- 1.1 The NSW Teachers Federation recognises the educational merit of integrating Information and Communications Technology (ICT) into the curriculum. Our students, beyond their current school and college years, will be living and working in a world in which ICT will be a natural part of life and will contribute to them being lifetime learners. The Federation recognises also that all teachers will require a range of computing competencies in order to successfully integrate ICT into their teaching practice.
 - 1.2 **Government Investment needed**
To achieve these aims for students and teachers will require a substantial investment by government and careful strategic planning. Professional development funding and support to build teachers skill levels in ICT must form the foundation of any ICT strategy.
 - 1.3 The introduction of new technologies into schools has been largely on an ad hoc basis, and it has relied to a considerable extent on the goodwill and voluntary efforts of teachers and others. Despite the very public commitment of large sums of money on computer roll-outs, and e-learning accounts for students, the NSW government has failed to ensure that public school students of NSW will reap the benefits of this investment. Without the necessary funding for both maintenance and technical support and other technology necessary for hardware such as digital cameras and scanners and other technology necessary for a range of education purposes, funding to support the maintenance of school websites, as well as professional development of teachers, ICT cannot be properly integrated into pedagogy.
 - 1.4 Simplistic announcements about the number of computers in schools fail to acknowledge the need to ensure that ICT is usefully incorporated into both the curriculum and pedagogy. Such announcements are no more than political grandstanding if they are not backed up with the support necessary to ensure that these computers are used to the best advantage.
- #### **Equity**
- 1.5 Issues of access and equity in terms of both the integration of ICT into the curriculum, and inequitable access within and between schools, and inequitable access in students' homes must be addressed in any ICT strategy.
 - 1.6 Changes to school reorganisation and teachers work should not be driven by potential cost savings that the expansion of new technologies may afford the system. The role of the Public School system as a vibrant social environment promoting what Professor Vinson describes as "active citizenship" cannot be replaced by the notion of the virtual classroom. ICT cannot replace teachers.

2. ICT AND TEACHERS PROFESSIONAL KNOWLEDGE

Supporting Learning

- 2.1 There is a growing expectation from employers, parents and students that good teachers of the 21st century can reasonably be expected to be good users of learning technology.
- 2.2 The Federation affirms that enhancing learning should be the main focus in the development of information technology in the school environment. All teachers should develop a knowledge and an understanding of the appropriate use and effective application of various types of information technology in the curriculum.
- 2.3 Teachers should not be put in a position where their low exposure to information technology hampers the ability to improve educational outcomes through ICT. Such a position is demoralising to teachers who highly value their professional skills and are motivated to do all they can to ensure their students have the optimum opportunities to make the best of their education.
- 2.4 Teachers need access to information about how workplaces, community groups, government groups, business and industry use ICT. This is important to inform teacher judgement about appropriate teaching and learning of particular ICT competencies. Hardware and bandwidth issues, in addition to lack of office and computer access for TAFE PTC use, continue to be of concern and members should refuse to use technology, unless they are provided with adequate facilities and access.
- 2.5 A teacher's access to a personal computer at the workplace should be as common as it is in the workplaces described above. Therefore teachers should not be expected to share computers in staff rooms or be required to take full responsibility for providing personal equipment used for professional purposes.
- 2.6 Teachers, as well as students, need to become proficient users of the Internet and other ICT to deliver these new syllabuses effectively. This requires a strong commitment on the part of the DET to provide adequate training and development.

3. **Training and Development**

Inadequate funding

- 3.1 Inadequate funding for training for teachers in the use of ICT in the classroom should be seen in the context of woeful overall funding for Training and Development in general.

Initial Teacher Education

- 3.2 While recognising that initial teacher education courses must now contain provision for computer proficiency, it is not the case that trainee teachers automatically receive training in incorporating ICT into teaching and learning.

TILT Training

- 3.3 The Technology in Learning and Teaching (TILT) training and development program has been of some value in introducing teachers to the use of

computers in the classroom. However, it is a limited program and access is not available to all who might need it. Approximately 23,000 have received some, albeit limited, training. The addition of TILT PLUS, TILT 7 & 8, and Leadership in School Technology (LIST), while welcome, has not resulted in a universal program available to all teachers. There is a concern that the DET might move to replace face-to-face training with CD-ROM training programs. Such technology should be used in conjunction with face-to-face training, not replace it.

Training and Development needs

- 3.4 Training and Development must encompass both the skills to use computers as a tool in lesson preparation, curriculum planning, assessing and reporting and other administrative requirements of teachers and the skills and knowledge to incorporate technology into pedagogy.

4. TEACHERS ACCESS TO TECHNOLOGY

Access at school and at home

- 4.1 Teachers' ready access to computer technology in staff rooms and access to the DET's network should be assured, particularly as information necessary to teacher's work and career paths, school administration, and curriculum, syllabus and reporting requirements is increasingly accessed on-line. Teachers should be able to access both the school's and the DET's intranet from home. Lap-top computers will need to be made available for teachers to take home.

4.2 School Counsellors DGO's and Itinerant Teachers

School Counsellors and District Guidance Officers and Itinerant Teachers are provided with a lap-top computer as an essential tool to support their work.

These teachers work in a range of schools, they need to record confidential information and write confidential reports. They need to be able to access and send e-mails to other guidance staff, support district staff and outside agency staff in order to support children.

Most of these teachers do not have access to computers at school. Most of these teachers and District Guidance Officers write all of their psychometric reports (which are prerequisite for Special Education placement) at home.

Data entry

- 4.3 Schools and teachers are experiencing difficulties specifically in relation to Board of Studies requirements for on-line entry of student and assessment details for the School Certificate and the Higher School Certificate, particularly the competencies embedded in Industry Curriculum Frameworks, the Registered Training Organisation, specific TAFE course numbers, Life Skills, enrolment of students into School Certificate examinations, enrolment of students into elective HSC TAFE course exams and the ongoing transfers of these students into and out of Years 10, 11 and 12. It is essential that while ever access and workload problems exist, paper entries must be an acceptable choice made by schools without receiving undue pressure from the Board of Studies.

5. CURRICULUM

ICT Competencies

- 5.1 The development of specialised skill training in the use of computer technology has been written into the cross curriculum content of all Year K-6 and K-10 syllabuses. Therefore, there is an expectation that students will develop and apply skills in the practical use of ICT.
- 5.2 Conference notes that the current process of insertion of core competencies into mandatory 7-10 syllabuses in an inappropriate model with assessment driving syllabus content. If ICT is to be genuinely embedded across the curriculum then the outcomes and competences should be generated as a natural part of the syllabus development process.
- 5.3 Without proper professional development and support for teachers in teaching such skills they will remain words in a syllabus document only.
- 5.4 Teachers also need to provide opportunities for students to proceed beyond the use of ICT as a curriculum goal in itself. The primary objective of the delivery of skills in the use of computers should be to allow the learner to access, manipulate, synthesise and evaluate information within a global context.

Computing Skills Assessments

- 5.5 Conference calls for the full establishment of facilities, training and development for teachers, and adequate release time and systems support prior to any endorsement of statewide computing skills assessments being implemented. NSW Teachers Federation makes it absolutely clear that the implementation of such processes is impossible without full and appropriate resourcing being embedded well beforehand.
- 5.6 To this end results of optional trial Computing Skills Assessment tests planned for Year 6 in 2002 and Year 10 in 2003 should be used to identify and resource schools to eliminate inequities in computer literacy competencies. Federation will resist strenuously any use of projected statewide tests purportedly commencing in 2004 to create 'league table' comparisons between schools or districts.

6. ON-LINE TEACHING AND LEARNING

The Federation recognises that there are occasions when on-line learning may be appropriate for school students, in particular where geographic or other reasons prevent a student from accessing courses they wish to pursue. However, the technology must not replace a teacher, since human interaction and communication are vital for successful learning to occur. Such successful learning is also predicated on the teacher being trained in all aspects of on-line teaching and learning and the use of technology in general, as well as further investment by the government in ensuring access, speed and reliability of internet use.

Any expansion of on-line learning and testing programs for school students should not proceed until there have been negotiations between the Federation and the DET and appropriate industrial regulation.

7. TECHNOLOGY SUPPORT

The Minister's recent media release about technology in schools included recognition of "the need to provide greater support for classroom teachers so they can make full use of new technologies". Apart from upgrading Help Desk support and a vague reference to a "trial to promote additional technology support", there has been no substantial commitment. The State Budget contained an extra \$24M over 4 years, an amount scandalously short of what will be required to provide even minimal improvement to the current situation.

7.1 Funding

7.1.1 The Federation views current funding arrangements for technology support to schools as both inadequate and inappropriate.

Funding for Computer Co-ordinators

7.1.2. The Government commitment in the 1996/97 State Budget to the provision of a Computer Co-ordinator in every secondary and central school was transformed in 1998 to funds spread across primary/infants, central and secondary schools. There was no real increase in the funds, with the result that there was inadequate allocation to allow for a Computer Co-ordinator in every school.

7.1.3 The commitment to Computer Co-ordinators was further diluted when what is termed the "Computer Co-ordinator Allocation" became an allocation of funds, which principals were afforded maximum flexibility to use for a variety of purposes to facilitate the use of computers for education purposes.

7.1.4 The current situation in relation to the Computer Co-ordinator Allocation is untenable. It pits the need for co-ordination of technology in teaching and learning against the need for technical support and infrastructure, and relies on the goodwill of teachers. Time allocations for Computer Coordinators and the work they do varies from school to school. While additional funding for computer education is provided in Global Budgets, these grants are untied and their use varies.

7.2 Technology /System Support & Co-ordination of Computers in Teaching and Learning

Coordination of Computers in Teaching & Learning

7.2.1 The work related to technology support takes up most of current Computer Co-ordinator's time. Little, if any, is left to devote to providing support for the integration of technology into teaching and learning across the curriculum.

Technology/system support

7.2.2. Currently teachers in schools all over NSW are providing the support necessary for the installation, operation and maintenance of IT, mostly in their own time. Many have undertaken training at their own expense. These are teachers who, because of their own initiative and interest, have the expertise to undertake this role.

7.2.3 The guidelines for using the Computer Co-ordinator Allowance do not distinguish between technical and system needs and curriculum/teaching and learning issues. They do not guarantee a Computer Co-ordinator

position in any school, neither is there an onus on schools to provide Computer Co-ordinators with any, let alone adequate, release time.

- 7.2.4 Notwithstanding the existence of the DET Helpdesk, technical support is woefully inadequate.
- 7.2.5 The quality of technology infrastructure and implementation in schools should not be dependent on the level of interest and expertise of teachers in the school, as is all too often the case at the moment.

District Technology Advisers

- 7.2.6 The DET is considering "refocussing" the role of district technology advisers in the context of a range of options to enhance technical support. The Federation expects to be consulted in relation to enhancements to current technical support to schools. It is imperative that the necessary funding does not come from current funding as some schools use this for training and development and ICT integration into teaching and learning.

8. INFRASTRUCTURE

The Federation recognises the Minister's recent announcements "program to improve the speed and capacity of Internet access in NSW schools", including doubling the ISDN capacity of 813 schools. In particular, the connection of some remote and rural schools to the DET's network via satellite link partially addresses some equity and access concerns, while the phased introduction of broadband connections will assist in improving the practical constraints that now operate to restrict the integration of appropriate technology into everyday classroom activities across the curriculum. The latter is a modest trial involving 13 schools and it remains to be seen whether this is extended to all schools across the state. The former affects only 165 schools.

Funding for Infrastructure

- 8.1 All schools should be provided with funding for the installation and high speed operation of networks, both internal and external, increased bandwidth and satellite links. The computer/student ratio means little if the system does not provide improvements in the learning and teaching environment. This funding should be separate from Computer Co-ordinator and technical support funding, and given that many schools are networked, allocated on a needs basis.

Internet access

- 8.2 The Federation recognises attempts by the DET to improve internet access. Over the past 12 months, schools have experienced many problems relating to speed of access and servers "being down". Real solutions must be found so that this situation is not repeated, as it disrupts teaching/learning programs and efficient school administration.

Equity

- 8.3 There still exist vast inequities between schools regarding infrastructure. The Federation will lobby the Government to develop a clear strategy to address the inequities.

9. **A BLUEPRINT FOR REARRANGING AND ENHANCING THE FUNDING AND AVAILABILITY OF INFRASTRUCTURE, TECHNICAL SUPPORT AND ICT CO-ORDINATION**

Role of Computer Co-ordinator

9.1 Every school should be allocated a Computer Co-ordinator whose main role would be supporting the use of technology in teaching and learning.

9.2 Computer Co-ordinators would also have the responsibility of identifying, facilitating and co-ordinating training and development needs, technical support needs, and infrastructure needs. They would also provide a trouble shooting role in relation to minor, but urgent, technical matters.

Technical Support

9.3 Computer Co-ordinators would be supported in this role by the provision of technical support to a cluster of schools, both by phone and in person. The technical support must be local, fast and consistent. In addition P1 and P2 primary schools and high schools must be provided with their own full time technician. Specific support mechanisms must be put in place to provide for the technical needs of rural and remote schools. This provision should include installation of new hardware. At the same time, the position and role of district technology advisors who are teachers should continue, with a supervisory and co-ordinating role in relation to technicians providing the technical support.

Infrastructure needs and software

9.4 Computer Co-ordinators would also be supported by the central provision of a consultative service to provide advice about infrastructure needs and availability of appropriate software.

Computer Co-ordinators Formula Entitlement

9.5 Every school must have a formal entitlement to a Computer Co-ordinator, allocated on the basis of a sliding scale dependent on the size and remoteness of the school, and forming part of the schools staffing entitlement. Details of this allocation must be negotiated with the Federation.

9.6 Computer Co-ordinators will be given release from face-to-face teaching, with the amount of this release determined as part of the schools entitlement following negotiations with the Federation.

9.7 The position of Computer Co-ordinator must be a position that;

- (a) has a negotiated set of responsibilities;
- (b) an open and explicit application process at each work site;
- (c) is not a position that must be held by the computer studies teacher.

The senior officers are to negotiate with the Direct of Staffing and DET that a memorandum is sent to principles to outline this process.

Training for Computer Co-ordinators

9.8 Computer Co-ordinators must be provided with an entitlement to training that is both appropriate to their role, and ongoing in nature to reflect the speed with which change occurs in ICT. Funding for this training

entitlement should be tied to this specific purpose and the training should be specifically designed for Computer Co-ordinators. The provision to training will assist in overcoming situations where schools are unable to find teachers with the confidence and expertise to take on the Computer Co-ordinator's role. There should also be a system of formal recognition of the expertise many Computer Co-ordinators already have, and a system of accreditation into university or TAFE courses that provide formal recognition.

- 9.9 Electronic communication between Computer Co-ordinators in schools and the DET needs to be improved and formalised. Federation should have representation on any DET committees set up to develop these communication mechanisms.

Technology Funding in Global Budgets

- 9.10 The technology component of global budgets should be tied for this purpose. Under current arrangements, these funds can be, and often are, used for purposes other than those devoted to technology.

10. SOFTWARE AND ON-LINE RESOURCES

- 10.1 The development of useful software is paramount. This needs to be designed in conjunction with teachers, and to concentrate on ease of use and clearly defined outcomes. The software must be relevant to curriculum needs and suitable for general classroom use.
- 10.2 The DET must provide an inventory of available software, on-line resources, and technology based activities, that includes an evaluation of their usefulness and suitability.
- 10.3 The DET must be responsible for provision and development of software packages used to facilitate the move towards computer based student reporting and/or other computer based changes to teaching and learning across the education sector.

11. SCHOOL LIBRARIES

OASIS Library

- 11.1 The current version of OASIS Library should be upgraded at the same time as OASIS Admin to provide a better service to students and to allow a closer integration with the Internet.

Training for Librarians and Library SASS Staff

- 11.2 Additional inservice training for teacher-librarians should be provided to enable them to enhance their skills as information specialists. Recognition by the DET of the Australian School Libraries Association (ASLA) in their provision of quality inservice training for Teacher Librarians, be made. Remuneration and release time equivalent to that of any inservice training undertaken with ASLA be awarded to Teacher Librarians until such time that the department (DET) provide the professional development that is needed.

- 11.3 Computers Co-ordinators and/or Computer Technicians in collaboration with teacher-librarians should work together to set up information service delivered by computer networks.

12. EMAIL ACCOUNTS FOR STUDENTS

- 12.1 Conference opposes the provision of e-learning accounts for all students in NSW. The \$82.3M over 4 years could be better spent on more educationally beneficial programs such as more teacher training and improved technical support.

Workload implications

- 12.2 The use of email by students and carers to communicate with teachers about such matters as attendance and academic progress will add significantly to teachers' workload. In consideration of workload and privacy issues, teacher e-mails are not to be made public.
- 12.3 Negotiations between the DET and the Federation should occur immediately in relation to the logistics and management of this initiative and appropriate regulation of workload issues. Until such negotiations occur teachers should be advised not to participate in either email exchanges with students and carers, or situations where they are called on to teach or provide materials via email or to control email discussion groups.

13. OCCUPATIONAL HEALTH AND SAFETY

Ergonomically designed furniture must be standard issue in schools. Appropriate ventilation and cooling in areas with concentrations of IT facilities to be made. With the increased use of computers by teachers for a range of tasks, including teaching, this has become an imperative. Guidelines must be produced about safety issues relating to wiring, cabling, plugs etc. The Federation will further develop policy in this area in consultation with members including Computer Co-ordinators.

14. DISTANCE EDUCATION

Infrastructure Needs

- 14.1 ICT is an integral component for the delivery of Distance Education. Therefore there is a need to ensure that all students covered by Distance Education have access to fast, efficient and quality systems.
- 14.2 The supply of computers to Distance Education students needs to be improved to allow Distance Education Centres to equip each student and each teacher with a computer.
- 14.3 To this end, Federation calls on the DET to provide:
- Satellite delivery of ICT to every home of a Distance Education student and to small schools (PP6) in isolated areas.
 - Sufficient technical support, on a formula to be determined, to service equipment in isolated homes and small schools promptly.

- Laptops on loan for students who are travelling while enrolled with Distance Education.
- Additional funding to Distance Education Centres for Training and Development of teachers, parents and students, to allow for the efficient use of Technology in On-line teaching and learning for isolated students.

15. EQUITY

- 15.1 The Federation supports the concept that all students, regardless of gender, economic background, NESB disability or isolation should be afforded equal access to fast, efficient and quality ICT.
- 15.2 In the week preceding the 2001 Census, 41% of people in New South Wales had used a personal computer at home. Of these, people aged 0-19 years who accessed computers and the internet at home, represented only 14%.
- 15.3 Clearly, with the growing emphasis on ICT in Board of Studies syllabuses K-12 schools need to provide for the inability of the majority of students to access computers and the internet at home.
- 15.4 Appropriate computer hardware and software be provided for students with disabilities particularly for those with physical or vision impairments. For eg:
- larger monitors
 - voice activated software
 - assistance devices for students with a physical disability

PART TWO – TAFE

PREAMBLE

Technology has become a very important tool for both teaching and administrative processes in TAFE. In adopting increased use of technology, however, TAFE teachers and educationalists have experienced a number of problems. These relate to resources and support, workload and appropriateness to an educational process.

1. TEACHING

- 1.1 Introduction of new technologies and pedagogies in the field of ICT should be treated as pilot schemes in terms of Clause 65 of the current Award and be accompanied by discussions between the Federation and the Department.
- 1.2 Delivery of TAFE courses online has the ability to increase access for a range of students, who do not have the opportunity or ability to participate in face to face teaching. Online delivery, is, however, a tool, and should never replace face to face interaction between teacher and student, and the importance of peer group interaction and learning.

- 1.3 Prior to any online delivery being undertaken, certain conditions must be met. These include the appropriateness of the course/module for online delivery. There are many courses/modules delivered in TAFE that should never be delivered online and there are some students for whom on-line delivery is unsuitable. Mixed mode delivery is preferable, to on-line only.
- 1.4 On-line delivery must be accompanied by adequate provision of technology to both teachers and students, with adequate bandwidth.
- 1.5 Teachers who may be required to deliver courses online must be given appropriate professional development, including arming teachers with the pedagogical skills for teaching and learning on-line.
- 1.6 The number of students enrolled in an online class should reflect traditional student/teacher ratios for practical classes.
- 1.7 Teachers who may be required to deliver courses online as part of their regular teaching program will be programmed in advance according to their Establishment Control Form (EC). Teachers should not deliver online programs or have educational contact with students outside of their regular EC program.
- 1.8 Where teachers deliver courses online educational contact with students is to be regarded as direct teaching.
- 1.9 The number of hours required to deliver a module online should be at least as great as the number of hours required to deliver that module in a face to face teaching environment.
- 1.10 Teachers are not to deliver online programs from outside a TAFE workplace, such as their home, due to concerns related to WorkCover coverage and OH&S.
- 1.11 Federation acknowledges the advice provided by the Department that online learning is a method of delivery used for some TAFE courses/programs and, as such, is not intended to impinge on existing working conditions of teachers in ways that are outside the scope of the Award.
- 1.12 There are a number of issues that have not been resolved satisfactorily in relation to online teaching and flexible delivery which require further discussion. These issues may be raised in negotiations around the next Award, if appropriate.
- 1.13 A model for determination of direct teaching hours must take the following factors into account:
 - an upfront development and establishment time for all online and flexible delivery courses, including:
resource refresh, resource update, exam and assessment renewal, roll establishment, recording of marks, auditing requirements, contact with students over a block release, seminars and teleconferences
 - the requirements of different disciplines
 - the needs of different student groups
 - assessment load

- enrolment type – continuous or synchronous
- progression – self-paced or synchronous
- average, student contact time including case/module level, email, phone, fax, personal or worksite visits
- time zones and shift work of students
- enrolment interview/pre testing
- level of clerical/technical support
- record keeping requirements including recording contacts, assignment receipts and dispatches.

1.14 The level of support and allocation of teaching hours must take all of these factors into account, and be negotiated prior to course/module development and implementation. Discussions will occur with DET/TAFE around these matters.

2. ADMINISTRATION

2.1 TAFE's focus on administrative duties being undertaken by TAFE teachers and educationalists using technology rather than through provision of adequate clerical staff, is unsatisfactory.

Federation will continue to work with the PSA in ensuring that appropriate administrative duties are undertaken by clerical staff, not educational staff.

2.2 The implementation of CLAMS, and other systems of technology, has led to vastly increased workload for many TAFE teachers. IT support for CLAMS has been inadequate. Part time casual TAFE teachers must not be forced, at the risk of losing their hours, to undertake data entry, thereby increasing their high level of subsidising public education.

2.3 The Federation will continue to support any member who refuses to use technology due to lack of resources/support, and/or training. Training time, and time to effectively use technology, must be supported and provided for by adequate release from teaching.

2.4 Hardware and bandwidth issues, in addition to lack of office and computer access for TAFE PTC use, continue to be of concern and members should refuse to use technology, unless they are provided with adequate facilities and access.