COLLABORATING ON A NATIONAL STATEMENT for Technology Education

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The current spate of national collaboration on the school curriculum has its genesis in the publication by the Australian Education Council of the national goals for schooling in the Hobart Declaration of 1989. These nationally agreed goals give purpose and direction to education initiatives in the foreseeable future.

Eight mainstream areas of the curriculum have been identified for national collaboration. Technology education is one of these areas. The brief from the Australian Education Council for the development of a national statement on technology education is as follows:

- to prepare an agreed statement on technology education for Australian education systems;
- to describe the understandings, knowledge, and skills, and processes that children can expect to experience at the various stages of schooling;
- to describe some agreed common curriculum elements around which technology education can be organised at the various stages of schooling;
- to describe the kinds of learning experiences that should characterise technology education programs and the student outcomes to be developed in technology education;
- to describe appropriate strategies for assessment in these programs; and
- to provide exemplars of good practice in technology education.

The statement has to be articulated for each of the lower primary, upper primary, lower secondary and upper secondary levels of schooling.

PROJECT

All states and territories, and the commonwealth are participating in the development of a national statement on technology education. The development of the statement is based on the map and literature review of technology education prepared in phase one of the project.

The Map of Technology Education in Australian Government Education Systems gives a picture of 'what is' happening across Australia derived from system documents, projected plans and practices in all states and territories. The literature review entitled Technology in the Curriculum Trends and Issues Emerging for the 1990s gives insights into 'what could' happen derived from international developments.

The national statement represents a distillation of 'what should be'.

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Figure 1. A process of review, exploration and decision-making
provided in technology education across Australia from year one to year twelve.

**DESCRIPTION**

The application of knowledge to create technologies is an integral part of the heritage and future of Australia. It is an essential part of sustainable development and adding value to our physical and intellectual resources.

To capitalise on opportunities, and to keep pace, people in Australia need to be more innovative, knowledgeable, resourceful, skilful, and adaptable to change than ever before. With these capabilities, people are more able to lead personally satisfying lives that contribute to society through individual and collective action; they are enterprising and productive in response to the challenges of life and work in our society.

The application of knowledge and experience creates products and ways of meeting human needs through the purposeful use of resources. The technologies that result contribute to changes in cultural, social and economic circumstances as well as to changes in attitudes and values towards work and daily life.

Technology education engages students in developing and applying ideas and practices for particular purposes through the processes of designing, making and appraising. Students investigate a whole range of materials, information and systems technologies by considering the issues, resources, tools and techniques that are relevant to the human and environmental needs they are addressing.

Technology education integrates theory and practice and includes much that is scientific, ethical, mathematical, graphic, aesthetic and historical. In drawing on knowledge and experience from other areas of the curriculum it provides a context for their immediate application. How ideas and practices are synthesised is explored, and the effects of technologies on people and the environment are carefully assessed.

The development of a statement on technology education is a collaborative activity in all states and territories. There are three rounds of consultation:

- round I: identification of learning experiences;
- round II: preparation of a framework for developing the national statement; and
- round III: comments and suggestions on the draft statement derived from the second round of consultations.

**COMPONENTS**

Four components for technology education programs have been identified in the draft statement. These are context, processes, domains and elements.

The context encompasses the learning environment including the student challenges and tasks, past, present and future perspectives, and personal-local-global considerations.

Students develop ideas and translate them into practice through the processes of designing, making and appraising. Through these processes students investigate contexts and purposes, explore possibilities and options, identify priorities and constraints, synthesise ideas and practices, devise proposals and plans, trial prototypes and concepts, produce outcomes and products, manage people and resources, monitor progress and effectiveness, judge impacts and consequences, review strategies and techniques, improve actions and outcomes, promote ideas and products.

In technology education students draw on domains of knowledge and experience when they are engaged in challenges and tasks. These domains are: materials, information and systems. Whilst each of them can be discussed separately all of them are involved in the challenges students undertake. The emphasis depends on the needs and purposes that are being addressed.

In the case of information, for example, students gain experience of information technologies through their application. Computing processes, communications and media technologies are employed in situations that are relevant to other areas of study, life outside school and to the personal interests and aptitudes of students. The information technologies encompass a wide variety of forms including visual and sound imagery as well as alphanumeric symbolic representations. Students learn the functions and purposes of hardware and software used for managing information.

A number of elements are considered when students draw on the domains to generate ideas and practices. They consider the relevant issues, resources, techniques and tools. Each of these are closely interconnected in a context of a particular challenge.

In the draft statement the four components are described in chart form for each of the four major levels of schooling. The charts outline learning experiences and outcomes with examples of areas from which content can be derived. The charts indicate the capabilities students should develop through technology education programs.

**ACTIVITY**

At the moment — April 1991 — the collaboration is focussed around the draft statement that contains the four components. Comments and suggestions are being sought from a wide range of people and organisations in education and in the community. The draft will be re-written in the light of the feedback from all states and territories, and the commonwealth. The revised draft will be submitted to the Australian Education Council by the end of June 1991.

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