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Draft Curriculum Feedback
Ministry of Education
P O Box 1666
Thorndon
WELLINGTON

70 Evans Street
Opoho
DUNEDIN 9010
19NOV06

Dear Ms,

COMMENT ON THE DRAFT CURRICULUM FOR TECHNOLOGY

Introduction

This is a comment upon the draft technology curriculum as sought by your release of September 2006. I have refrained from commenting on the other subject areas because I am sure they will be well-dealt to by others. My interest in technology issues relates to my involvement in the workforce as an engineering technician and as a student.

These comments are further to the form supplied with the draft curriculum documents.

I am a 58 year old public servant with two children, both of whom have progressed through the public education system since 1987, approximately the inception date for "Tomorrow's Schools". My interests include extensive involvements in outdoor pursuits, both as a participant and as an administrator.

General Observations

The 1995 curriculum document for technology mentions three strands, as the draft for 2006 does. An unfortunate deficiency which I believe has carried over from 1995 is the use of rather 'highfalutin' language to describe the intended results from following these documents. (As you might imagine, there tends to be a certain loss of clarity when pretentious language is used to describe quite simple results.)

Contrast this language with that used in the letter of transmittal of 18SEP2006 from Ms. Chamberlain, a model of simplicity and one which could well be followed by those who script the curriculum documents.


Another point I wish to make is the constant pressure from society (including interest groups) to add or include 'new' features and topics into the curriculum. I have yet to see any such group suggest an aspect to be removed to create space or time for the suggested new topic. I find this curious in view of the finite time which exists for teaching (and presumably learning) to take place each day, week and term.

In More Detail

Page 23 of the draft asks a series of rhetorical questions about technology and the reasons for studying it. While the justifications are fine, nowhere do they mention that pupils do things to learn about how they work; they "undertake practice and examine the practice of others".

Early Exposure to Skills

I regard the learning of pupils, particularly those involved at years 7 and 8 (where they become exposed to workshop and home economic rooms, many for the first



time) as being of great importance for the acquisition of ~~appreciating~~ technological issues. They need to learn basic techniques, to identify sequences, to acknowledge the results of doing these things before embarking upon the complexities (and iterations arising from revisions) of design.

Complex Language for Simple Tasks

Mention of things like "...generating ideas, developing briefs, and organizing and managing resources and time" often works against the simple gaining of skills, of the ability to learn the names of tools, of materials, of elemental food components.

This is not to say that the things in the draft document are not important, just that at the earlier years of study, many children don't know the names of things let alone the correct method of using them. These basic elements can be overlooked by those who are obsessing on the observance of the somewhat prescriptive present curriculum.

I wonder how the wording of "cutting on the waste side of the line" might be put in the draft document - "... undertake practice and examine the practice of others." ?

Technological Practice

About a decade and a half ago, when the present technology curriculum was introduced, a greater proportion of pupils at years 7 & 8 knew of the things like the difference between a screwdriver and a chisel, or between nails and screws, or even between nuts and bolts. I believe that fewer know of 'workshop' issues now because of factors such as the continued breakdown of the nuclear family, urban drift and at times, the onset of OSH issues which may constrain opportunities at playcentres and in the early education of children.

Reasons for Studying Technology

I cannot help but feel that a quick look at history is of value here. I am aware that the school leaving age was raised by amendment to the Education Act in 1944, and that it was only after the second World War that a majority of school pupils progressed to secondary school.

The connecting of students with a range of employment opportunities is indeed relevant, more so for senior secondary students. However, I wonder if, in view of the fact of the limited writing and even reading aptitudes of a portion of our school students, the value of their learning years would be enhanced by a reduced emphasis upon the writing aspects of the technology curriculum and a greater emphasis on the 'doing' elements of it ?

As a lifelong bureaucrat, I am fairly familiar with writing, but for some, the effort required is considerable. While I could not argue for a moment that the education system should 'let up' on the inculcating of these basic skills, I wonder if a curriculum derived from *other* curriculum areas (as I believe the technology subject area is) need contain such an implied emphasis on written effort ?

Jargon

I note that the jargon of teaching appears in the achievement objectives supplied after the original draft was published. Reference to the "black box" in technological systems (presumably referring to a modular or sealed unit), and to "inputs, controlled

transformations, and outputs” (when arguably, results and changes are meant) sharply reduce the value of these objectives even though these are brief statements of intended learning result.

Surely there is a place for “literature review” too, when planning for practice? In the scientific fields, this (among other things) helps the student to avoid making a mistake someone else has already made, again.

Integration

An interesting tension arises in intermediate schools when the philosophical differences between the ‘classroom’ teachers and the ‘specialist’ teachers (who often teach in the technology subject area) are contemplated. Additionally, another form of ‘tension’ arises when the desire to “integrate” subjects manifests itself in the form of changes from other forms of curricular arrangements.

Given that no subject area can exist by itself, the idea of integration (as indicated to me by teachers) is fine. However, linked with this concept are the ideas of pupil-directed and teacher-directed learning.

I perceive these to be two extremes of a continuum, with teacher-directed learning arguably providing less choice for pupils but reducing the time needed to cover a curriculum area because it denies pupils the opportunity for topic exploration. The alternative, that of completely pupil-directed learning, provides lots of choice for the pupil with opportunities for the making of mistakes, of learning from these, then progressing to the next step in whatever exploratory process in whatever subject area in which the pupil is operating. In a way this is preferable to the teacher-driven version, but there may be a ‘downside’.

Integration has seemed to me to provide considerable opportunity for ‘dumbing down’ (reducing the skills taught to pupils) because the interests of complete integration reduce the opportunity for the imparting of skills, particularly at the years 7 & 8. With only some 20 hours available for each technology area at this stage, opportunity for the imparting of skills (in the technological practice strand of the draft curriculum) is arguably reduced when completely integrated programmes are implemented.

This tends to be because the specialist teachers see skills acquisition as being of greater importance in the early stages of pupil learning than do the non-specialists, but full programme integration ensures there is less time for this. Hence, a reduction in the range of skills shown to pupils.

While it might be argued that specialists tend to ‘lose sight of the wood for the trees’, the need to spend more time identifying basic craft skills has progressively become more apparent than it was 15 years ago. If pupils have gained other skills over the years, they have displaced others and this poses a challenge particularly for technology specialists.

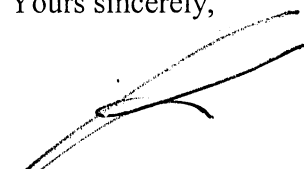
In the early 1990s, as a new parent, I argued for integration in a submission on the draft technology programme of the time. For exactly the same reason as I had then, I continue to support it (no subject should remain in isolation).

End Results

It would be of interest to learn if the changes wrought by "Tomorrow's Schools" have been successful by whatever criterion is adopted by the monitoring agencies. It would also be of great interest to learn of the value of these changes (and of the results once the latest draft bear fruit), not only to the pupils in their subsequent schooling (as they progress from primary, to secondary, then to tertiary education and finally into the workforce.

I have consulted with Professor Crooks of the EARU of the University of Otago on this topic and understand that research is ongoing into these matters.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Chaz Forsyth". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

Chaz Forsyth