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**Sent:** Wednesday, 2 October 2002 6:48 PM

**To:** Committee, EDT (REPS)

**Subject:** Inquiry into vocational education in schools

Dear Sirs:

Thank you for the opportunity to make a submission on this important matter, and for the background information and terms of reference. Having spent most of my career in university technology and engineering teaching, and having taught Engineering to high-school students in American summer schools, I am naturally interested in vocational education (voc. ed.) at the school level. I have tried to address your concerns, but have not paid special attention to indigenous Australians, lest I seem to be promoting separate development.

Some relevant background:

- B1. An international study published in Aust. media on July 28 showed that Aust. has a greater proportion of its population being educated than any other nation. This keeps many people -- not all of them students -- off the unemployment rolls.
- B2. Compared with most other countries, much of this education occurs at the tertiary, rather than the secondary, level, even though many of the students have not completed 12 years of primary and secondary school.
- B3. The trend towards voc. ed. which your committee is considering is quite the opposite of the trend in nursing education, where a newspaper report of Sept. 17 showed that over 70% of Australia's 186,000 nurses now have some university education.
- B4. There has been a decline in the teaching of subjects that connect students to the world around them, notably history and physics.
- B5. There has, rightly, been official concern about literacy, but standards of numeracy may be lower. Some who claim literacy cannot read a graph, table, or even a street directory.
- B6. Role models for many students are their teachers, who -- careers advisers included -- may not be sufficiently familiar with the current and future occupational distribution of career opportunities that are of real national importance and that provide long-term rewards to young people who devote much of their lives in preparing for them. (Many of the best of my generation were advised in the 1950s into non-existent careers in Nuclear Physics.) Much present and proposed voc. ed. seems to be tacitly directed at entry-level occupations, such as textiles/apparel, agriculture, retailing and food services.
- B7. Much vocational education occurs in the six TAFE systems, where there is a high proportion of non-teaching administrators and heavy capital expenditure on non-educational equipment, such as company cars for officials. Rapid growth has provided employment for staff displaced from sunset industries, which thus continue to be proportionately represented more strongly in the education industry than in primary and secondary industry. Most growth in employment in the real world has been in service industries. There are instances of students being trained by unqualified persons.
- B8. Shortcomings in education are variously blamed on students, parents, teachers, funding, etc., but the standard of teacher training arguably remains a limiting factor. The mischievous notion that teacher training is a substitute for subject know-how ("We are trained to teach anything.") makes appearances in voc. ed.
- B9. Many industry personnel likely to be engaged in voc. ed. have old-fashioned ideas and do not keep fully abreast of developments in their own, let alone, related fields, and are a menace to modern voc. ed. For instance, Aust. has been part of the metric world for a generation, but many still think, talk and teach in gallons, acres, feet/inches, etc. They must be retrained or retrenched before mental obsolescence spreads to another generation.
- B10. Many subjects previously reserved for tertiary education have already been introduced to high school curricula, such as Accountancy and Law. To make room, there has to be "dumbing down", dumping of other subjects, or both.
- B11. Resources formerly directed to science laboratories -- with their opportunities for discovery, hands-on experience, scientific method and professional development -- are increasingly being spent on computers.
- B12. Substantial training subsidies cause distortions, e.g., in the mushrooming growth in educational service providers, some of which are also the vocational companies. Subsidised conflict of interest are possible.
- B13. There is a higher level of unionisation in teaching than in most associated vocations. It is sometimes possible to read a teacher union magazine in its entirety without encountering words such as pupil, student, trainee or learner. Insistence on Union labour in voc. ed. may cause disruption.
- B14. Job opportunities and aspirations keep changing, with many students (and their parents) hoping for at least ephemeral futures as professional sportspersons.
- B15. The Education industry has spun off many subsidiary activities, such as Curriculum Development. I understand that more than 200 State curricula have been developed by their committees, but never used (1995). The extent to which the gap is due to committees' technical ignorance remains undisclosed.
- B16. If the official statistics which I received last year are to be believed, Aust. now has over 200,000 apprentices, who enjoy on completion almost zero unemployment -- though 20% are classed as "self-employed" -- and their completion rate is well above the 27% quoted for TAFE programs. With most of the training in the workplace, it may have occurred to the reader that this is often a return to the 19th-century system of "learning from Jack/Nell", but with at least one layer of bureaucracy and subsidy superimposed. The recent observation of Mr Albanese, M.H.R., that traineeships actually reduce a trainee's chance of finding a job demands an urgent reallocation of resources. A related problem, that many people, even the middle-aged, are lured into low-paying, subsidised traineeships that are misrepresented as jobs, suggests wholesale misuse of federal education funds.

I have tried to avoid prescription and prediction, as the outcomes of educational systems are usually the reverse of what officialdom intends. Examples:

- C1. The French system, with its stress on the fine arts and the glory of France, produces some of the world's greatest international engineers.
- C2. The British system, with its stress on discipline and conformity, produces some of the world's best non-conformists.
- C3. The American system, with its stress on mediocrity, social promotion and extra-curricular activity, produces the lion's share of the world's Nobel Prize winners.
- C4. The Australian system, which divides 12-year-olds according to gender, state, religion, social class and, in extreme cases, assessed intellect, produces a nation that unites well under pressure.
- C5. Also noteworthy is the enormous proliferation of business schools across Australia. I look in vain for signs that Aust. standards of management, including our labour-intensive educational administration, can compare with, e.g., Germany, where engineers commonly run manufacturing companies.

There may be some things to learn from the American vocational system, where there are few TAFE-type colleges, few training subsidies, and much learning is in the workplace, under the principle "Keep the customers happy and get it right first time, or you're fired!" This narrow type of training makes trainees more valuable to the active company than to other employers. As a Drucker book on management points out, whenever skilled people have been needed in U.S.A., they have, given adequate incentive, appeared. The fast-food industry provides entry-level jobs and training, with McDonalds alone claiming that 15% of young employees start their careers with them.

Potential advantages of extending vocational ed. in schools include:

- A1. Closer links between industry/commerce and the education industry

A2. Consequently a better match between student abilities and job opportunities, especially if other legislative reforms are introduced to encourage mobility in the work force. The potential for reducing waste of human resources is huge.

Potential disadvantages include:

- D1. Displacement of key fundamental subjects by vocational subjects, e.g., What is the point of first learning quantity surveying or bookkeeping if you have not had the incentive or opportunity to master basic arithmetic?
- D2. Difficulty of hiring good teachers in fast-growth industries such as Information Technology
- D3. Risks of erratic or double standards of assessment. Teacher-training schools have set the lead, with some assessors relieving themselves of fair decision-making by giving "A" marks in teacher training courses to all students who complete them. Some effort will have to be exerted to ensure that a student's aggregate mark, especially in public examinations, does not depend on whether he/she chose externally assessed voc. ed. subjects.
- D4. 'McDonaldisation', a shift in the balance of power between educators and training providers to the point where companies hijack the system for their own narrower interests. A related problem is the difference in perception of voc. ed. between educators and industrialists, especially when sitting together on training boards. Sometimes, neither side has had experience of the type of voc. ed. that their students are getting.
- D5. Risk of companies' intermittent co-operation. During a recession, companies, often with Union collaboration, are unwilling to take on students when their own employees are being laid off. As a student, I spent a valuable trimester doing compulsory industrial training -- the currently fashionable word is "internship" -- but the scheme was later suspended and replaced with more course work when the number of students exceeded the number of temporary training vacancies in companies willing to place them.
- D6. Costs of joint ventures. Some will see in any subsidised scheme an opportunity for roting. Sometimes joint management is deficient, e.g., La Trobe Uni. has recently written off \$2.5 million in an aborted collaborative hospital project. The initial amount of taxpayer funds invested and the channels of its disappearance remain the subjects of official cover-up.

Other aspects which may not have been included in the terms of reference:

- E1. Distance voc. ed., to provide for students in remote areas, including aboriginal reservations
- E2. Fair assessment of students/trainees, and achieving and maintaining credibility of qualifications. The role of testing in maintaining active participation, as an incentive to continuous learning and as a means of screening sub-standard learners.
- E3. Recognition of Prior Learning, and its objective assessment
- E4. The role of industry accreditation boards
- E5. Provision of good-quality, universally accepted and readily accessible learning materials
- E6. Bullying and harassment of learners in the workplace, especially of women
- E7. Safety and insurance of students in voc. ed. courses, especially in extra-mural work

Respectfully submitted,

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