TAFE IN THE 1990's

Edited by William Hall

ADELAIDE 1989
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INTRODUCTION

Recently TAFE has undergone dramatic changes both nationally and within the States and Territories. For example, TAFE is now part of the Department of Employment, Education and Training; and important restructuring of TAFE has occurred in the majority of States and Territories. Although TAFE has always been entrepreneurial, the definition of "entrepreneurial" increasingly being used outside TAFE, insists that TAFE should compete with private enterprise for funds.

Because of these (and other) reasons it is timely to raise some of the issues facing TAFE as we approach the 1990s. That is the main purpose of this collection of short papers. The authors were not presented with a policy framework within which to work. The only constraints were that the papers should be short and readable! They do not cover every aspect of TAFE in the 1990s, but they do raise many important questions which will have to be answered. If they encourage debate, the publication will have succeeded.
ABOUT THE AUTHORS

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1. EDUCATIONAL IDEAS AND IDEALS: IS THERE A TAFE PHILOSOPHY?

Maurice Byrne and Peter Kirby
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THE GENESIS OF TAFE

TAFE in the late 1980s has a high public profile. The terms 'TAFE' and 'technical and further education' are the lingua franca of the bulk of Australians who aspire to post-school learning or the gaining of a tertiary qualification. It is a major provider of remedial, vocational, and general education for young school leavers and adults. Colleges of technical and further education are prominent public institutions in most Australian cities and large towns, providing widespread educational access and resulting in ever increasing participation rates.

TAFE nevertheless is still relatively new - still an educational experiment. Although from a strictly historical perspective TAFE's origins lie in the Mechanics Institutes and Schools of Mines of the 1880s (and while acknowledging the fact that the New South Wales Department of Technical and Further Education was formed in 1948) the TAFE systems of the 1980s are largely the product of the 1970s.

The renewal of technical and further education generated by Kangan and his committee can be seen in perspective as a cultural as much as an educational reform. Kangan attempted to persuade Australians that the notion of 'going on after secondary school' was not just for the select few.

The Kangan Report (1974) on examining technical and further education in Australia marked the beginning of a new era for TAFE. The report built on the history and philosophy of the existing technical and further education system, set it in a national perspective and provided a framework and imperatives for its future development.

A theory or philosophy of Lifelong Education built upon a consideration of fundamental human rights and their characteristics had been extensively and profoundly articulated by R.H. Dave and others. Karmel had in 1971 in South Australia reported a vision of comprehensive education and training for 'non-academic' school leavers and adults which was essentially sociological in its approach.

Kangan reiterated and expanded on such themes and in doing so embraced economic theory in a way which struck a responsive chord with the reformist Whitlam Government.
The Whitlam Government's adoption of both a sociological and an economic approach to the provision of tertiary education resulted from, firstly, a recognition that it was in the main consumed by students of high socio-economic status; secondly, analyses conducted by OECD and American economists which demonstrated the close link between education and economic growth.

Kagan expressed the feelings of the reform movement with observations that: education had to be lifelong because life demanded continuous learning and adaptation; the termination of formal education at a particular age or educational standard neither reflected nor respected life experience; relevant learning apart from formal education (e.g. in the workplace) should be validated; lifelong education was a theme that should permeate the lives of all, rather than select groups or elites; 'learning to learn' should infuse the whole of the curriculum.

TAFE emerged in the 1970s not as another relatively simple and discrete sector of post-secondary education, but as a complex and extremely diverse concept. Its unifying element was, and is, its coherence of purpose - to provide access to lifelong education and training.

It has developed largely unfettered by any definition or specification of its activities. The strains and conflicts in its efforts to provide remedial, vocational and general education for people of all ages - to overcome inadequate formal education, develop existing or new skills, add to knowledge and explore personal development, for work and leisure - are reflected in the difficulties the TAFE system experiences in such areas as priority setting, student selection, organisation, premises, materials, equipment and, increasingly, fee charging.

TAFE is not a level of education primarily. Surely it is a particular type of education - technical and further, although TAFE content and delivery typically are shaped more closely to client need than in more traditional education. To the extent that it is true to its principles TAFE is an educational service. It must be prepared at least to consider a response to any legitimate learning aspiration of every potential client in each and every social group, occupation, industry and community.

TAFE's organisational principles are based on ethical precepts rather than rigid prescriptions. They therefore allow ample scope for system flexibility and responsiveness (unity in diversity). Broad tenets or precepts, however ethical in tone, naturally lend themselves to diverse interpretation. For that reason it will always be difficult to manipulate into one uniform national system of education. TAFE's strength as well as its confusion lies in its diversity.
POLICY AND PRACTICE

Even the casual observer of TAFE policy and practice will note shortcomings. For example, innovations and change have sometimes seemed TAFE goals in themselves. In setting goals and priorities there has been reliance on faith and an expectation of intuitive understanding rather than a careful articulation of philosophy and function. This has resulted in a range of public and government perceptions of TAFE and no consistent constituency from which it can draw support. Issues vested with TAFE have usually been extraordinarily complex and the subject of considerable public debate. Moreover, TAFE, by its very nature, has invited public scrutiny - at college, State and national level.

The rapid rate of technological and social change over the past decade has also seen a great deal of ad hoc policy-making in TAFE. At times this has resulted in too great a concentration on 'mission' at the expense of effective management of resources and accountability. Good practice and sound processes, particularly in respect of curricula, have foundered as new goals and foci have arisen in response to government directives and funding imperatives. Perceived distortions in the nature and distribution of courses have created some dissatisfaction with TAFE (and not infrequently within TAFE). Competing both with the higher education sector and schools has drained energy and resources from the important (and indeed from TAFE's viewpoint, essential) work of developing curricula linkages and status and credit arrangements with other education sectors and with industry training.

TAFE's commitment to individual client service has seen the acceptance of low graduation rates in some major courses, and low non-completion rates in many subjects. These are justified on the poorly tested assumption that some student needs have nevertheless been satisfied. The facts, however, do not sit comfortably with funding bids in an increasingly competitive environment. From every perspective, it is a waste of human resources if students leave TAFE without the intended learning goals being attained.

Participation in TAFE remains skewed. The statistically significant cohorts of students are in their late teens through to late twenties, pursuing an initial, or early post-initial, qualification. Recurrent education and re-training programs directed towards mature workers, or persons seeking a late entry or re-entry to education or the workforce, have been supported only spasmodically.

TAFE has been viewed since the 1970s as a primary instrument for the achievement of government's social and economic policies. There have at times, however, been instances of contradictory public policies which have given rise to tensions as TAFE has sought to discharge conflicting commitments to funding agencies.
From one national policy perspective TAFE is seen as an integral part of higher education and is urged to develop more "academic" curricula with an emphasis on formal, traditional accreditation. There are also equally strong opposing national pressures on TAFE to accommodate more specifically-targeted, short-term training with minimal or no accreditation.

**THE TAFE STYLE**

While the resolution of such tensions in TAFE has given rise to imaginative curricula, adaptive teaching, innovative delivery and sensitive approaches to client needs, objectively TAFE cannot be all things to all people. Its educational reach is constrained by higher education in one direction and secondary in another; by competition for the public sector and, particularly, the education dollar; and by the limitations of its physical and human resources.

The cultural/educational reforms of which TAFE has had major responsibility during the past decade and more are substantial and continue to preoccupy policy-makers' attention. TAFE's role must be placed in that context. The tertiary education and industry training sector are in the process of reassessment of some magnitude. This reassessment is likely to lead to significant shifts in the relationships between sectors and institutions. The resulting changes are likely to strengthen TAFE's philosophy and organisational principles - access to lifelong education, educational service and unity in diversity.

Within all this, a 'TAFE style' is evident. It can be observed for example in the TAFE student selection processes. Whether normative or criterion referenced, TAFE selection practices are positive and optimistic, geared to promote suitable and relevant vocational options for applicants rather than blunt or discourage their aspirations. These processes seek to ensure that all have adequate opportunity to participate with a reasonable chance of success in relevant education and training programs.

Clearly TAFE's brief history is no less chequered than that of any other serious social experiment. It has found its initial backers somewhat distant in times of crisis; funds have not flowed with regularity or predictability. Some of its 'supporters' are often publicly more critical than supportive of TAFE's performance. TAFE has needed to develop its own tenets and codes of practice in a harshly competitive environment. And those in the vanguard of TAFE development have at times misunderstood their own motives and responsibilities as much as they have been misunderstood and misrepresented by others.
So why do we in TAFE persevere with what seems to be undiminished enthusiasm? Perhaps mainly for two reasons: TAFE philosophy is right and, almost inexplicably, TAFE works exceedingly well in providing the community with access to education and training.

Given its assumed charter TAFE may never totally be secure or successful. Yet TAFE now stands in the record as an educational service having meaning and value to many thousands of lecturers and administrators across the nation, and to many hundreds of thousands of past and present (lifelong?) students.

Every national and international forum which in recent years has confronted the major challenges of our time - technological change, the global village, disintegration of the social fabric, the increasing distortions in the wealth and power of nations - has offered the same basic solution viz. the "Learning Society." TAFE's philosophy and principles have their place in the modest Australian attempt to meet the challenge and develop such a society.

REFERENCE

INTRODUCTION

Since 1974, the involvement of the Commonwealth Government in TAFE funding, policies and programs has steadily increased. This has brought both benefits and tensions.

Under State-Commonwealth financial relationships, the States are responsible for meeting from their own resources the day-to-day running costs of TAFE and have a responsibility to maintain capital expenditures at an agreed level. Commonwealth grants are intended to improve the quality and rate of development of TAFE activities to upgrade TAFE's physical facilities and capacity through special programs and capital works. Increasingly, Commonwealth funding is used to ensure that Commonwealth policies and programs are given a high priority by State and Territory TAFE systems.

The benefit of Commonwealth funding in strategic areas has been substantial and has enabled important quality improvements to be made to TAFE. However TAFE's relationship with the Commonwealth has been characterised by tensions arising from inadequate consultative arrangements; the growing burden of meeting Commonwealth Government administrative requirements; difficulties with forward planning resulting from short lead times and changing programs; and the difficulties in reconciling State and Commonwealth Government policies and priorities.

OVERVIEW OF COMMONWEALTH FUNDING OF TAFE

Commonwealth recognition of TAFE in Australia as an identifiable part of the tertiary education sector came with the release of the report of the Australian Committee on Technical and Further Education in 1974. The report gave rise to a program of Commonwealth Government financial assistance under the State Grants (Technical and Further Education) Act 1974 which provided for capital and recurrent grants.

From the inception of Commonwealth funding initiatives in TAFE and up until 1987, Commonwealth funds were directed to four major ends:
(a) the construction of new capital facilities appropriate to a sustained growth in student demand in TAFE, in particular for full-time education and training;

(b) the provision of special earmarked recurrent funds for TAFE to meet specific objectives approved by the Commonwealth. This included special programs for disadvantaged groups, adult literacy, curriculum development and staff development;

(c) direct grants for equipment, initially for new and replacement equipment as part of a combined equipment and minor works program but, since 1982, as a special grant for new equipment to keep pace with technological change;

(d) general recurrent (fees reimbursement) grant.

In addition, Commonwealth funding for specific programs was provided by a number of Commonwealth Government departments, such as the Department of Employment and Industrial Relations, the Department of Aboriginal Affairs and the Department of Immigration.

Until 1987, Commonwealth funding for TAFE was administered by the Commonwealth Tertiary Education Commission (CTEC). In 1987 there was a dramatic re-structuring of Commonwealth Government departments which included the amalgamation of the Department of Education with the employment and training sections of the Department of Employment and Industrial Relations to form the Department of Employment, Education and Training (DEET). As part of the re-structuring, the Commonwealth Tertiary Education Commission was abolished and responsibility for administration of funding for tertiary education was transferred to DEET.

At the beginning of 1988, new funding arrangements were introduced which comprised a TAFE Infrastructure Program and a General Recurrent Program. The TAFE Infrastructure Program is a combination of the previous Capital Grants, Special Equipment and TAFE Minor Works and Equipment Programs for Traineeships. The previous Fees Reimbursement and Designated Recurrent Grants were replaced by a General Recurrent Program. Both the TAFE Infrastructure Program and the General Recurrent Program are subject to resource agreements with the States.

These agreements include:

- a commitment to pursue productivity improvements in 1988 (and following years), including the terms and conditions of staff employment;
agreed target growth rates in designated courses of high priority to meet skill shortages, equity objectives of strategic importance to future economic development; and

changes in administrative arrangements to enable TAFE colleges to retain revenues from entrepreneurial effort.

Although these changes were said to be designed to free up the system and give TAFE more flexibility in responding to the demands made upon it, in practice, the resource agreements have added to the constraints placed on TAFE by the Commonwealth. All TAFE systems are finding the lack of adequate consultation by the Commonwealth is causing major management and administrative problems and believe that after two years of this system, there is an urgent need to review the process. There is a very great danger that the current funding arrangements will distort TAFE's objectives and provision and possibly lead to conflict at the constitutional level between State and Commonwealth governments.

LABOUR MARKET PROGRAMS

Since the mid 1970s, successive Commonwealth Governments have sought to improve Australian labour market conditions. This intervention has been justified in terms of one or more of the following broad policy objectives;

- to improve the quantity and quality of skills within Australia by helping individuals to acquire skills and by supporting the efforts of industry to meet its skills needs;
- to help achieve equity in the labour market by providing work experience or training opportunities for those experiencing particular difficulty;
- to improve labour market efficiency through an effective job placement and advisory service and by promoting job mobility.

The Commonwealth has regarded TAFE as an important vehicle for implementing parts of these policies. Since the early 1970s, the development of labour market programs reflected various Commonwealth Government priorities with an emphasis being placed upon the problems of unemployment.

There has been a number of benefits flowing from the provision of Commonwealth funded labour market programs in TAFE. The innovative curriculum and program development which has emerged has enhanced TAFE's capacity to respond to short-term labour market and industry needs. Labour market programs have also resulted in greater access to TAFE by disadvantaged students.
At the same time, these programs have also caused a number of problems. Because of Commonwealth control of costing methods, TAFE authorities also must subsidize if they are to participate. In addition, labour market programs are subject to frequent changes with little prior consultation and with short lead times for implementation. Interpretation of guidelines can vary significantly within the various operating levels of DEET. Conflicting priorities sometimes arise because of the different funding cycles and location of program management within DEET.

Some of these problems stem from the lack of an educational perspective by many DEET personnel and an imprecise definition of target groups for particular programs. The Commonwealth Employment Service referral of some program candidates can also be inappropriate.

COMMONWEALTH-STATE CONSULTATIVE ARRANGEMENTS

There has been a number of changes in consultative arrangements since the Commonwealth Government first became actively involved in providing funding for TAFE.

In 1975 the Government established the TAFE Commission, along similar lines to the University of Advanced Education Commissions. For the first time guidelines were established within which each Commission framed its recommendations for funding under a system of "rolling" triennia.

In 1977 all three tertiary education commissions were abolished to make way for the establishment of the Commonwealth Tertiary Education Commission and its three Councils. In the period 1978 to 1981, new provisions for consultation between Commonwealth and State Ministers and their respective agencies were introduced. These changes resulted largely from State complaints about the lack of adequate processes for discussion and their lack of opportunity to comment in detail on particular Commonwealth proposals, a situation exacerbated by the rolling triennial funding arrangements. At the June 1979 meeting of the Australian Education Council, Commonwealth and State Ministers agreed to a new range of procedures to facilitate more effective consultation.

The most significant of these new procedures was the establishment of a framework outlining specific procedures to be adopted in the preparation of triennial plans, to begin in the 1982/84 triennium.

In July 1986, the three Councils were abolished and advisory councils established in their place. The amendments to the legislation modified the roles and responsibilities of the Commission and its councils. The changes to previous arrangements meant that:
the advisory councils provided advice on the condition of the relevant sector, its problems, and priorities for future development but did not make detailed financial recommendations;

each State and Territory was required to provide CTEC with a single statement of its priorities, concerning all three sectors and consultations were held with each State on the basis of the State's co-ordinated view.

In 1987, the Commonwealth Government announced the abolition of CTEC and its advisory councils and the establishment of a new national advisory body, the National Board of Employment, Education and Training. Although the establishment of the Board was foreshadowed in 1987, it was not until July 1988 that its membership, and that of its four advisory Councils was announced. Advice on TAFE is provided by the Employment and Skills Formation Council (ESFC).

The Boards will co-ordinate the provision of independent advice on policy issues in the context of the Government's broad social, economic and resource policies. However, administration of programs and decisions on funding are made by DEET.

It is unfortunate that NBEET, while having some members who are experienced in TAFE, does not have any representatives from TAFE systems. It is also unfortunate that the Employment and Skills Formation Council does not include a representative from the Australian Conference of TAFE Directors (unlike its predecessors under CTEC). This means that there is no TAFE system policy voice on the new national advisory body and consequently there will be a lack of balance in the advice provided to the Minister for Employment, Education and Training. The lack of appropriate TAFE representation on the ESFC means that the opportunity to provide a national forum for industry, unions and TAFE to discuss major issues such as industrial award restructuring has been lost.

CONCLUSION

While acknowledging the important part the Commonwealth Government has played in the expansion and development of TAFE since 1974, there has been an increasing tendency over the past four years for the Commonwealth Government to impose its policies and programs on State and Territory systems with little consultation, inadequate lead times and little regard to forward planning. The changes to Commonwealth administrative and advisory structures have reduced opportunities for consultation and co-operation and, as a consequence, increased tensions between Commonwealth and State systems.
Although CTEC's triennial planning process was time consuming, it did allow TAFE authorities to present their policies, priorities and plans for future development to the Commonwealth. This enabled the Commonwealth to gain a comprehensive overview of national effort in TAFE. The CTEC reports provided a three year plan for Commonwealth policies and priorities and allowed them to be placed within the context of State policies and priorities. The abolition of triennial planning and the introduction of resource agreements, which concentrate only on the Commonwealth's short-term objectives, is a retrograde step.

Problems now being experienced by the States and Territories with both resource agreements and labour market programs are to a large extent, the consequence of lack of adequate consultation and co-operation. The recent changes to advisory mechanisms have the potential to exacerbate this situation.
3. THE INTERFACES: SCHOOL/TAFE/HIGHER EDUCATION

William C. Hall, Executive Director,
TAFE National Centre for Research and Development

THE INTERFACE ISSUES

The educational interfaces, their links with employment, and their positions on the applied-theoretical continuum are shown in the diagram. Student movement is indicated by the arrows.

The continuum is only a gross generalisation. For example, a university dentistry course is wholly "applied", and a TAFE art appreciation course is "theoretical". Nevertheless, the applied-theoretical continuum is firmly fixed in the public's mind.

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<td>Applied ← → Theoretical</td>
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<td>Employment ← → School</td>
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<td>TAFE ← → Higher Education</td>
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The next chapter deals with the TAFE/employment interface and so the [employment → TAFE] and [TAFE → employment] movements will not be discussed here, other than to comment that such movement will (increasingly) be dependent on previous training, and current training will (increasingly) be regarded as one component of a total training strategy, which will be linked to industrial awards.

The movement [school → employment], although still the route for the largest group of school leavers, is increasingly becoming less realistic. The need for some sort of qualification is becoming the norm and most students get their qualifications from TAFE. A few students move from TAFE to higher education and still fewer move from higher education to TAFE. However, the [school → TAFE → employment] route is the most popular; and [school → higher education → employment] is the second most popular route to getting a qualification for a job. The main interface issues discussed in this chapter arising from the movements shown in the diagram are:

- although most students seeking qualifications will move from [school → TAFE], school curricula are still heavily slanted towards higher education needs, thus incorrectly assuming that the major route is [school → higher
education]; there are all kinds of insidious, covert attitudinal assumptions here, which lead students to believe that failures go to TAFE;

schools recognise the need to prepare students for employment ("the world of work"), but doing parts of TAFE courses in schools might not be the most appropriate way of achieving this, even though this strategy might be the easiest way to achieve short-term (political) objectives;

higher education is giving insufficient recognition to the [TAFE -→ higher education] movement of students, although there are signs that this is starting to improve rapidly;

higher education is giving no recognition to the possibilities that arise from the movement [higher education -→ TAFE], not just for those students partly completing a university course, but also for those for whom the most appropriate job route is [higher education -→ TAFE -→ employment]. In passing, it must be mentioned that movements within TAFE are not necessarily as straightforward as some would wish.

Each of these issues will now be discussed.

SCHOOL CURRICULAE

Whilst it must be recognised that school curricula have changed in recent years, with some thought now given to providing education for employment, nevertheless the emphasis at most school is still on preparing students for higher education. It is assumed that successful students go to universities and the less successful become apprentices or enrol for full-time TAFE courses. There are two main reasons for this. First, societal and thus parental pressure insists that people such as doctors and lawyers have high-status jobs whereas technicians and trades people have positions of lower status; and, second, high school teachers themselves are products of the [school -→ higher education -→ employment (back to school)] route. They know little, or nothing, about TAFE and many know nothing about work in industry or commerce. Although this problem has been acknowledged for a few years, the extreme urgency of the problem and the need to tackle it as a priority issue has yet to be widely recognised. The impact of school teachers' attitudes towards TAFE cannot be overemphasizes.

The problem can be partly solved by better TAFE public relations. TAFE needs to "sell" itself to high school teachers and to parents. Generally, this has not been well done in the past.

A second solution to the problem would be for schools to include curricula which are more relevant to those students who will not go on to higher education (the majority). The need for this has been written and spoken about for many years. The solutions being attempted by most schools are unlikely to help solve the problem.
What is being suggested is not the introduction of plumbing, building, word processing, etc. courses into schools, but the introduction of core curricula which would help to show students that what TAFE has to offer is stimulating and worthwhile, and that jobs in industry and commerce can be fruitful and challenging. Such a core curriculum could be technology education. The definition of "technology" which is favoured is that used by the United Kingdom's Project Technology: "A disciplined process using scientific, material and human resources to achieve human purposes". Unfortunately, the term "technology" has been used (quite incorrectly) by many schools as a synonym for woodwork, metalwork, etc. This changed use of the term should be dealt with immediately because it is helping to reinforce the spurious picture of industry created in school pupils' minds. Frequently, the less academically minded pupils do "technology". Technology education (in its proper sense) should be a compulsory, core subject for all schools. Further, school technology, in its proper sense, should permeate the whole school curricula with the intention of changing students' knowledge, attitudes and skills. Knowledge includes a basic technical knowledge, an ability to solve problems and an understanding of the interactions of science, technology and society. Attitudes includes the willingness to question, to solve technical problems, to make value judgements and to strive for quality. Skills includes getting things done efficiently and effectively. Such aims would form a good foundation for TAFE courses and higher education, as well as making an important contribution to a student's general education.

PREPARING SCHOOL STUDENTS FOR EMPLOYMENT

Over recent years there have been numerous ways of organising TAFE/school cooperative program. A popular approach has been for a TAFE college to offer an existing accredited TAFE course to years 11/12 students who travelled to the college from nearby schools. However, numerous other ways are also being used. Approaches to TAFE/school cooperation are to be applauded, but care must be taken by schools to ensure that TAFE is not merely being used to solve some of the schools' problems, often brought about because of offering inappropriate curricula in inappropriate environments to years 11/12 students. Cooperative program should be just that: program offered cooperatively in both schools and TAFE colleges, available to all students, and contributing to a tertiary education entrance score.

Care must also be taken not to diminish the credibility of TAFE courses, for example by permitting them to be taught in sub-standard facilities by teachers who have not been trained to teach TAFE courses.
As more students continue into years 11 and 12, the need to recognise their school achievements in TAFE courses (by, for example, giving credit or by shortening the length of apprenticeships) will become increasingly important. In other words, articulation between school and TAFE will be just as an important issue as articulation between TAFE and higher education.

**HIGHER EDUCATION GIVING RECOGNITION TO TAFE**

Increasingly, wage awards will be correlated with qualifications obtained, and so it will be normal to expect:-

(a) to be able to move from trainee, to apprentice, to technician, and so on, without having to start from scratch each time;
(b) to be able to start at any stage in the hierarchy of courses; and
(c) to assume that all courses will "dovetail", thus permitting credit to be given for previous qualifications.

The jargon term for all of this is "articulation". There are few practical examples of articulation at present, especially articulation between TAFE courses and higher education courses. A major reason for this is because of lack of institutional policy in the higher education sector. However, agreements are starting to be reached and these should be encouraged. It is essential that such articulation should occur if the planned industry restructuring is to have the necessary training underpinning.

A second reason for the importance of articulation between TAFE courses and higher education courses arises from the fact that for many students, the gateway to higher education will be TAFE. TAFE offers them a second chance, and then from TAFE they can move into more advanced courses.

The White Paper on higher education discusses alternative forms of cooperation between TAFE and higher education, including the provision by TAFE of feeder courses, teaching by TAFE of the early years of higher education courses under contract, the use of TAFE premises by higher education staff and the use of TAFE facilities (such as libraries). These suggestions are sensible, but it does need to be recognised that many TAFE facilities are already overstretched.

Some higher education facilities could be of use to TAFE, and so TAFE authorities should be encouraged to examine the possibility of co-operating with higher education in this way.

Although it is impossible to quantify, during the past year higher education has developed a co-operative spirit with, and an eagerness to learn about, TAFE. This is encouraging and should be fostered at every level.
MOVEMENT FROM HIGHER EDUCATION TO TAFE

Almost all discussion on articulation at the TAFE/higher education interface assumes that there will be one-way movement: from TAFE to higher education. However, movement from higher education to TAFE should be important for two reasons. Firstly, some students might start their initial tertiary studies in higher education and then (for various reasons, not just failure) decide to complete them in TAFE. Wherever possible, work done by students in higher education should have some currency in TAFE.

Secondly, TAFE should be regarded as the vocational education provider for graduates as well as for school leavers. Most B.A. and B.Sc. graduates are not directly prepared for work (their courses do not pretend to do this) and a vocational course (say from three months to one year in length) should be available to graduates of such courses. A small number of TAFE vocational courses are already being offered to graduates with great success to graduates and these should be extended.

Graduate certificates are now a possibility, but the assumption has been that they will be offered by higher education. This assumption must be questioned, because TAFE would be the most appropriate provider of short, vocational courses for graduates.
4. TAFE AND ITS CLIENTS

Graham Mill
SA Industrial and Commercial Training Commission

THE CONTEXT

Any informed discussion on the future of vocational education and training in Australia requires an understanding of the quite dramatic economic and industrial changes which are taking place at the present time.

At the national representative level there appears no dispute regarding the necessity for these changes: there is a unanimity of view between unions and employers, and government. The ACTU/TDC Mission to Western Europe in their report, *Australia Reconstructed* noted on page xi:

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The seriousness of Australia's current economic situation is now well appreciated throughout a significant part of the community. Furthermore there is broad agreement as to the main causes of the economic problem we now face.

... A fundamental restructuring of the Australian economy is required... (1)
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Structural Change

As the quote above indicates a fundamental restructuring of the Australian economy is required and is already taking place.

Restructuring of the economy involves a number of significant elements. The elements most relevant to this discussion paper are those linked to our human resource base and present and future labour force skills.

In this context John Dawkins strongly emphasises the Government's commitment to structural change through Australia's education and training systems:
The Government (Commonwealth) is determined that our education and training systems should play an active role in responding to the major role in responding to the major economic challenges now facing Australia. (2)

... changes in the area of employment, education and training are necessary components of structural change. (3)

Skills Formation

Restructuring will require significant changes to our approach to skills formation and acquisition. These changes will relate to what, how, when and where of skills formation. In addition the cost of skills formation needs to be reviewed and how this cost should be spread across government, employers and the individual.

As with many other aspects of the economy financial considerations will be the major driving force for change in the development of skills acquisition and training.

The industrial environment in which training occurs is changing profoundly. Major reforms have been made to industry assistance, financial regulation and industrial relations legislation. The new wage system outlined in the national wage case decision of August, 1988 will be a catalyst ... (4)

A report by the Senate Standing Committee on Industry, Science and Technology (1988) made the following observation:

"The Australian approach to learning and skills acquisition has been too narrow. Instead of integrating education, training and skills formation systems and practices, as the more successful economies like Japan and Sweden have done, we in Australia have sub-divided too rigidly, ...

Skills formation is the end result of combining what have for long been separated in Australia. The formal education system which provides education; the technical education system which provides training; on-the-job learning; experience; and personal development."
The Industrial Framework Imperative

A strong argument exists for those most involved in the issue of skills formation - that is, the recognised representative organisations of employers and employees - to have the ultimate responsibility for addressing the fundamental questions of the what, where, when and how of skills acquisition.

Increasing the national commitment to skill formation must occur within this industrial framework. (3)

The Australian Conciliation and Arbitration Commission and State industrial tribunals will play an important role in ensuring appropriate standards are met. (4)

Clearly governments at the State and Federal levels can and should play a part. They can and should use the community’s extensive resources to influence the major directions and ensure that what is done is in line with the nation’s strategic objectives.

The "Who Should Pay' Imperative

... the Government (Commonwealth) expects industry - both employers and employees - to accept the responsibility for increased expenditure on industry training. (5)

As far as who should accept financial responsibility for skills training, the Commonwealth Government has stated its position and even the most cursory examination of current State Budgets and likely future ones makes clear the position of State Governments.

Thus on the one hand, there is a dramatically increasing need for more and better vocational education and training, for re-training and skill upgrading in order to increase the nation’s economic competitiveness and productivity. On the other hand we are faced by (in proportional terms) significantly lower levels of public funding.

As industry and commerce (employers and employees) are required to meet a greater proportion of the costs of training they will demand an increased level of involvement in the management of its provision. They will also be seeking to maximise efficiencies in the provision of education and training.
SOME OF THE KEY ISSUES

A more detailed analysis of skills acquisition and vocational training reveals a number of key issues.

The "Where" of Skills Formation

Every observable indicator which relates to vocational education and training in the future points to significant diversification in the location and nature of formally recognised training. Traditionally in Australia, virtually all such training has taken place through, or in conjunction with the public education institutions. As the quote below demonstrates, skills formation and training has been almost entirely divorced from the workforce it is ultimately intended to serve.

At the present time it is difficult in Australia to obtain credit for previous study or industry job experience. It is a major problem as the efficiency of higher education is greatly affected, resources wasted and students discouraged. (4)

In the 1990s the essential growth in formally recognised vocational education and training will occur more and more outside of the public education institutions. Future vocational education and training will see a substantial increase in commercially-based educational provision; in "in-house" provision by larger employers (both their own employees and the employees of others); and in industry-based skill centres. There is also a significant potential for growth in "fee-for-service" training in public education institutions.

Given Australia's appalling current record in effective articulation between courses and despite the fact that virtually all education and training is presently conducted through public education institutions, the diversification of educational provision is a major issue.

It is not surprising therefore that government policy statements urge as increase in the national commitment to skill formation which occurs within the industrial framework. Hence the proposals to establish a "National Metal and Engineering Career Development and Recognition Board".

The "When" of Skills Formation

-integration of skills should begin in primary school and continue until retirement from the work force. (4)
The provision of formally recognised vocational education and training in Australia is almost totally concentrated at the post-secondary entry level and access to it is limited to less than one half of the new entrants to the labour market. Only 7% of the Australian work force had higher education qualifications, and only 26% have a trade or technical qualification.

Opportunities to develop the skills necessary to gain access to a significant number of occupational areas critical to the economy are often restricted by, in some instances, the necessity to gain employment first; or in others, the necessity to gain entry to tertiary education first. This problem is compounded by the lack of industrially recognised formal training in a number of significant areas.

This latter problem is highlighted in the following:

Interest in industrial skills in Australia is narrowly restricted to traditional trade skills, university-developed technical skills and management and marketing skills. Australian industry's direction is towards high-technology processing activity... Little interest is shown in developing the skills of high technology process workers. (4)

TAFE is the largest of the three tertiary education sectors, accounting for approximately 70 percent of the formal post-school education enrolments in Australia. However, in 1987 more than three quarters of the total enrolments in TAFE were at the basic skills, preparatory, operative, and apprentice level. That is therefore, less than one quarter of enrolments in courses at the trade technician, supervisory, and para-professional level.

The "What" of Training

Even with the best information or likely technological and structural change, we cannot confidently predict the types, and mixtures of skills that will be needed in the future. (2)

On the whole, vocational education and training programs for particular occupations have taken as their starting point the definition (no matter how long) of the occupation.
Through the '70s and early '80s the ready availability of funds to the TAFE sector enabled the implementation of a plethora of unique training programs. Thus the present provision of courses in TAFE largely reflects the existing work organisation and occupational structures determined in the industrial relations framework.

Inappropriate work practices and narrow occupational classifications have created a very narrow skill focus in Australia. Occupations, and consequently training arrangements, are rigidly defined by horizontal and vertical segmentation, as well as along rigid gender lines. (3)

As award restructuring proceeds it has become clear that there will be a collapsing of the present narrow occupational classifications and a broadening of skill-related occupations. This will necessitate corresponding changes in training programs. Furthermore, particular attention will also need to be paid to promoting efficiencies in the development and delivery of training programs. If these opportunities are to be maximised, course designers will have to take into account skills and knowledge common across various occupations and industries. Recognition of skills common to various occupations will also facilitate efficient provision of cross-skilling training.

Relevant to consideration of this issue is the work done in Europe on occupational training families and that in Canada on core skill clusters and the recognition of generic occupational skills. Also significant is the work done on developing the multitrades courses of pre-vocational training in South Australia and, in Victoria the development of the "Engineering Craft Certificate" by the Victorian Engineering Skills Foundation.

THE RECOGNITION OF SKILLS

"... there will be a system of national accreditation, ... This system will ensure that all training undertaken outside of the industry has an educational value that is recognisable and transferable nationally." (6)
In November 1988, the Australian Manufacturing Council and the Employment and Skills Formation Council of the National Board of Employment, Education and Training sponsored a national workshop on skills in Australian industry. One of the major topics examined at the workshop was skill recognition issues.

The workshop noted the vast array of credentials presently issued in Australia by statutory agencies and others at the State and National levels. These credentials, which while they often relate to the same vocational areas at similar levels, are generally lacking in consistency and equivalency.

The cross-sectional group at the workshop which had the task of examining this topic made the following observation:

Certification of skills is important for the purposes of employment and further study. As far as possible, qualifications should be nationally consistent and the certification arrangements should be comprehensive in the sense of having the capacity to cover formal and informal training, on- as well as off-the-job training, and training provided by both public and private providers.

The community-wide recognition of skills attained through industry acceptance of the certificate issued is critical. This is the value of the qualification.

We are concerned that the detailed specification of skill competencies in Awards will reinforce inflexible practices and result in significant fragmentation and lack of portability.

The group was of the view that whilst not the ideal the preferred (by a significant margin) mode would be to build on existing frameworks through State/Territory legislation.

Responsibility for certification at the State/Territory level should rest with an appropriately structured tripartite body. This certification to cover all elements of the vocational training programs.

Content of training programs should be developed by industry led tripartite organisations, at both Federal and State levels. This development should be managed so as to achieve national consistency.

A key issue for action will be to ensure that the vocational education/training systems at the State/Territory level are unified and that separate parts of the system are not issuing certificates in respect of their part.
Whilst the State/Territory authority responsible for certification can ensure consistency across industry sectors there is a need for a national forum and agreed arrangements to ensure consistency nationally.

While recognising need for national consistency in the specification of training requirements this should focus on a national common core that provides scope for flexibility at the local or firm specific level. That is contracts of training could specify provision of national core plus local/firm options and certification also show this. (9)

TAFE AND IT'S CLIENTS

Who are TAFE's Clients?

In simple terms the answer to the question "Who are TAFE's clients?" is that TAFE's clients are those enrolled in the courses it is providing. However, whilst TAFE must (in whatever it does) maintain a very strong focus on the interests of the student, it has a much wider range of other clients to whom it has also to respond.

TAFE's clients can be broadly arranged into three identifiable groupings:

- the community;
- the student body; and
- industry and commerce.

Whilst these groups have distinct and individual interests, it must be recognised that they also have significant common interests.

If TAFE is to respond effectively to these client groups it must listen to them and heed what they say. If it is to retain its sanity in doing so it must work closely with the groups to develop consultative arrangements which are comprehensive, rational and appropriately structured. TAFE must not determine the consultative structures, this is the prerogative of the groups.

The Consultative Arrangements

Consultative arrangements will vary for the three groups. The community interests will be identified mostly by governments (state and federal) increasingly through fiscal means. The other primary mechanism for determining community interests, to which TAFE must respond, will be the advisory structures at the college of regional levels. However, in the 1990s the relative importance of this mechanism as a source of influence is likely to decline.
The interests of industry and commerce will be identified through industry-based advisory structures. These advisory structures will be developed sectorially or as groups and will represent employers and employees. They will be supported by governments. TAFE will be a participant but not the convenor. The competing interests of industries and industry sectors will be balanced by an authority at the state and territory level which is representative of the interests of employers, employees and government.

The most difficult task for TAFE in the area of consultative arrangements will be how it can effectively access the views of its students as they will remain predominantly part-time.

What will be the changes?

It is clear that anticipated changes will be significant.

In the context of the structural changes discussed earlier in this section it is possible to identify a number of major movements that will occur in the provision of TAFE services. These are:

- there will be great pressure on TAFE to move away from enrichment studies and increasingly to focus solely on vocational education and training;

- the balance in the application of TAFE resources in support of the primary, secondary and tertiary sectors of industry and commerce will change significantly. There will be a reduction of the resources applied to secondary industry and an increase in those applicable to the tertiary sector (such as finance, communications and leisure);

- there will be a dramatic switch within TAFE's support of the secondary industry sector from the provision of courses at the basic entry level. Within courses there will be a much broader range of provision covering both technical and non-technical topics;

- TAFE will be a major educational provider in the tertiary sector of industry and commerce but it will not have the same level of exclusivity of provision that it has in respect of the secondary sector;

- areas of significant growth for TAFE will be in curriculum development and the provision of assessment services. It will be given the key role in these two areas and will maintain it if it listens to its clients.
BIBLIOGRAPHY


5. TAFE FOR ABORIGINALS

Eleanor Bourke

INTRODUCTION

The question of TAFE in the 1990s as it relates to Aboriginal and Torres Strait Islander people* is a very important one. In an educational context, Australian Aborigines have traditionally fared badly by comparison with other Australians. For example, less than 17% of Aboriginal students progress beyond compulsory schooling compared with over one-half of other Australians. TAFE therefore, because of its unique educational role and mission is ideally suited to remedying these deficiencies.

In the next decade therefore, it is essential that TAFE systems strengthen their educational goals vis-a-vis education for Australian Aborigines and Islanders ensuring that, gaps and deficiencies resulting from incomplete or inadequate schooling are narrowed, if not entirely eliminated. This process will involve for example, the upgrading of literacy and numerous skills of Aboriginal peoples together with the provision of specific skills such as those offered within the trades and similar areas (for example, bookkeeping). In addition to overcoming existing educational inadequacies, TAFE systems should in the future, aim to provide those Aboriginal students of school leaving age with viable educational options and opportunities.

TAFE SYSTEMS, PROGRAMS AND COURSES FOR ABORIGINALS

TAFE programs designed specifically for Aborigines would serve a number of important ends and overcome a number of critical issues which affect Aboriginal communities. Such programs would be extremely valuable since they have the potential to:

*Definition of an Aboriginal. There is an official government definition of who is Aboriginal. In the 1980s the Government moved from self-identification to the following, which is written into legislation (Aboriginal Development Commission Act 1980):

"An Aboriginal or Torres Strait Islander is a person of Aboriginal or Torres Strait descent, and who identifies himself/herself as such and is acknowledged as Aboriginal or Torres Strait Islander by the community in which he or she lives."
assist towards gaining educational qualifications;
- develop employment oriented skills;
- offer skills in technical and managerial areas;
- overcome inadequate schooling which presents entry into higher education (for example, the provision of bridging and access courses designed to overcome the educationally devastating effects of poverty in rural communities.)

It is crucial that TAFE take the lead in offering such programs and courses for Aborigines - and within a culturally appropriate context. For example, Aboriginal teaching staff and advisors could be used to:

- advise on the implications for Aboriginal people of all TAFE policies and programs;
- liaise with TAFE colleges and Aboriginal co-ordinators;
- Aboriginalise courses/subjects for Aborigines and Islanders;
- develop specific programs and teaching resources which meet the needs of Aboriginal people thus enabling them to realize their potential and manage their own affairs.

In terms of specific educational areas like that of Aboriginal literacy TAFE should play a major role in the establishment of a national strategy to combat literacy deficiencies in Aborigines.

The long term approach is particularly important in the areas of literacy and education for the trades. In relation to the former it is significant to note that many members of traditional Aboriginal communities are still not receiving basic literacy education. Remote communities need access to courses which offer English as a second language. In addition, such communities are also seeking development and management training.

TAKE AND RURAL COMMUNITIES

It is essential also that TAFE develop a technical and further education strategy for inhabitants of remote communities - one which recognises and meets the needs and aspirations of Aborigines in these areas. In communities such as these TAFE systems should have the capacity to offer Aboriginal people a practical skill-based education thereby enabling them to take control of their own lives. The context of such educational programs should be decided by the Aborigines themselves and should be provided on demand. The recent national project on
community and enterprise management training conducted through the TAFE National Centre for Research and Development is an example of a purpose-designed Aboriginal education and development package and one which could conceivably be further developed and extended.

ABORIGINAL EMPLOYMENT IN TAFE

When designing and implementing Aboriginal education policies for the 1990s TAFE systems should be urged to employ Aboriginal liaison staff. Their task would be to promote and advertise TAFE courses by advising Aboriginal communities on availability and consent of programs as well as explaining to Aboriginal people the various educational options open to them. The practices adopted by the Department of Social Security offer a worthwhile model for TAFE planners to consider copying. In addition to their appointment as liaison staff Aboriginal people should be employed within the existing TAFE systems thereby enabling them to compete for other appointments and enhancing their career opportunities.

TAFE AS A BRIDGE FOR ABORIGINAL ENTRANCE INTO HIGHER EDUCATION

The role of TAFE in the provision for Aborigines of bridging and access courses to higher education needs to be clarified. An integrated educational model relating to these areas and which co-ordinate the activities of TAFE systems and relevant tertiary institutions should be developed. Ultimately therefore, TAFE systems could assume responsibilities for the preparation and career orientation of potential Aboriginal tertiary students.

Once strategies and policies in these areas have been firmly developed, a nationally co-ordinated approach could be adopted. In this way the various states could, after individual needs and requirements have been clearly identified, make appropriate and proportional contributions. It is vital that in the assessment of future educational requirements for Aboriginal people that TAFE systems are made aware of their responsibilities to increase their level of outreach. They must also recognise that offering adult education to Aboriginal communities and centres necessitates the provision of on-the-ground programs and activities.

ABORIGINAL EDUCATION POLICY TASK FORCE

In 1988 the Aboriginal Education Policy (AEP) Task Force reported that the TAFE sector is now the main provider of vocational and education training for Australian youth and adults. Furthermore it recognised the potential value of the TAFE sector for Aboriginal people resulting from:
- the vast range of courses and programs offered by TAFE; and
- the location of TAFE colleges and units in many provincial centres and remote towns.

The Task Force recognised that some TAFE systems already have the capacity to provide on-site courses designed specifically to meet the needs of Aboriginal communities. However, where no TAFE facilities already exist, they clearly need to be developed. On-site courses do not require elaborate or costing infrastructure and heavy staff commitments. Establishment courses while they are very specific could in fact be taught on-site by a generalist teacher/trainer rather than by a specialist teacher.

The AEP Task Force also found that many Aboriginal people enrolled on non-award TAFE courses of a general educational nature, including those designed to improve literacy skills, and which make a valuable contribution to personal and community development. It is suggested that when planning future strategies and policies relating to Aboriginal education that such courses as these be considered appropriate as award courses. The AEP Task Force recommended:

... that the Government should assist TAFE institutions with significant Aboriginal enrolments to provide support units able to give appropriate support to Aboriginal TAFE students (1988 p.30).

CONCLUSION

It is essential that changes be made in the TAFE systems of the next decade to ensure an equitable and significant Aboriginal presence and focus. At the present time for example, there is only one Aboriginal principal of a TAFE college (Grafton, N.S.W.).

In the 1990s therefore, Australian TAFE systems should aim to achieve the following goals for Aboriginal people:

- equality of access and opportunity;
- equitable participation at all levels;
- equality of outcomes;
- the inclusion of Aboriginal and Torres Strait Islander people throughout the TAFE systems.
The second phase of the Aboriginal and Torres Strait Islander Education Policy offers the ideal opportunity to coherently unite these objectives and ideals. National policy should describe the relationship between Australian TAFE systems and Aboriginal education, thus paving the way for a successful partnership in the 1990s.

REFERENCE


ACKNOWLEDGEMENTS

The help of the following is gratefully acknowledged:

Professor C. Bourke, Ms P. Fowell, Ms J. Huggins, Ms C. Parkinson, Mr D. Rathman.
Industry restructuring will dominate the delivery of TAFE courses in the early 1990s. Through informal agreements as well as through formal changes to industrial awards, restructuring will produce major changes to work in industry. There are three main forces behind restructuring: an increased sophistication of world markets, the introduction of new technologies, and the rapid growth of some industries (accompanied by rapid decline of others).

Industry restructuring will have a huge impact on all TAFE colleges and on higher education institutions. There will need to be important changes to course content and structure, to teaching approaches, and to relationships between institutions. There will also need to be staff attitudinal changes. Many tertiary institutions will need to be much more client-oriented than they have in the past.

COURSES

Courses will need to place a much greater emphasis on conceptual learning, on technological literacy, on the social implications of technological change and on cross-disciplinary concepts like "quality".

Learning to learn skills will need to be developed. Course descriptions will need to specify planned outcomes much more precisely than presently occurs in some handbooks.

TAFE graduates will have to be able to combine skills in two or more disciplines. ("Mechatronics" is one example of this: an amalgamation of electrical and mechanical engineering.) Graduates will need to be able to adapt quickly to technological change, and throughout their working lives be prepared both to transfer existing skills and to learn new skills.

Course structures will need to allow for a wide range of choices, especially across disciplines. Modular courses will be one popular solution. Multiple entry and exit points will be required and there must be credit for previous learning, including informal and on-the-job learning. The necessary changes will only be possible if:
the length of the course (or period of study) is not considered a major criterion of learning success;
courses specify the performance standards to be achieved (and the conditions under which performance is to be achieved);
courses can be developed, approved, accredited and reaccredited quickly.

TAFE courses will need to allow for both horizontal mobility (e.g. between trades or subject disciplines) and vertical mobility (e.g. between job levels and between academic awards or institutions).

Some have expressed concern that there will be a narrowing of technical education because of industry restructuring pressures. They are wrong. The reverse will occur. For example, some of the humanities subjects will be essential for tomorrow's successful engineers. And technological literacy will be essential for everyone. For example, it will be important to teach the "social implications" of technological change (i.e. ways in which technological change can affect people, individually or in a group, and the ways in which people can themselves bring about such change).

REASONS FOR TEACHING SOCIAL IMPLICATIONS

There are eight main reasons for teaching the interactions of science, technology and society:

- technological change is an important part of our culture and, as such, should be understood by everyone;
- it is important to have informed citizens in all walks of life;
- there is a widespread concern for the quality of life, especially the impact of changes to technology on this quality;
- there is a need for everyone to exercise social responsibility at work when technologies change;
- there should be a 'values' component in technical education. This is especially true when dealing with technological change;
- there needs to be recognition that changes in technology are practised within a social context and so the teaching of changes should not be isolated from people;
- technological change is having a huge impact on employment, with an ever-increasing rate of change;
technological change is making an impact on education (both what is taught and how it is taught).

Consider the last of these: how technological change can affect teaching. Although large quantities of research show that there are no learning benefits in employing one instructional medium rather than another, there can be efficiency and convenience benefits. For example, it can be more convenient to watch a video cassette at home instead of attending a college lecture.

There will need to be expert managing of teaching technology to ensure that the technology is a tool, a means to an end, not an end in itself.

TEACHING

Although Australia has a good external studies record, most students are still taught in traditional ways, in traditional buildings. Increasingly, students will demand some say in why, what, how, where and when they learn. Consider one of these: the choice of where they learn.

No longer should the walls of an institution be considered sacrosanct. For much learning, students should only be expected to go to a college when learning cannot more appropriately take place elsewhere, for example, at the workplace or in the home. Some lecturers will teach in factories rather than in a college.

If courses are to provide the kind of flexibility required by employers and by students, TAFE teachers and TAFE course designers will need to be trained in structuring courses so that multiple entry and multiple exit are possible.

TAFE teachers will need to strengthen their links with industry. Education/industry liaison will include the joint use of facilities, equipment and staff. There will be more jointly funded and jointly staffed research and development projects.

Most TAFE lecturers have themselves been 'monoskilled' trained. Even if time and money were available, changing the level and breadth of teachers' skills, on the large scale required and in the short period of time available, is not practicable. Therefore team-teaching offers one solution to the problem. (This teaching approach is not new.)

Team-teaching requires careful planning and skilful doing. Coordination of separate course components will not happen by chance. Therefore TAFE teachers will need to be trained in how to make their specialisations part of a larger and more broadly skilled whole. This training will be necessary for both course planning and course delivery. Management and teaching skills will be required; curricula will have to be restructured.
INSTITUTIONAL CO-OPERATION

In some instances in the past, communication even within a single institution has been poor and transfer between departments non-existent. Industry restructuring requires that not only should communication be good, but that there should be the possibility of good student mobility between, as well as within institutions. This is because there will need to be both horizontal mobility (i.e. between disciplines) and vertical mobility (i.e. between academic awards and job levels).

Until recently, there has been very little movement between TAFE colleges, CAEs and universities. This is now quickly changing, but the movement is mostly one-way. That, too, must change, so that (for example) a university graduate with a general degree will be able to complete a short TAFE vocational course before entering employment.

Schools will need to recognise that most of their students who go on to tertiary education will enter TAFE colleges, not universities. (There are over twice as many TAFE students as higher education students.)

SOME DANGERS

Industry restructuring could fail because the necessary changes are occurring too quickly for key groups to assimilate them. In particular, the country's middle management (in all areas) needs to be revolutionised.

A key assumption in restructuring is that the present general workforce possesses a minimum level of education to cope with the changes. That assumption is probably not valid. Therefore the level of general education needs to be raised, using television, on-the-job training, and various approaches to "open learning".

Lastly, formal education at all levels needs to respond quickly. Universities, in particular, do not have a good record in this regard.

STAFF DEVELOPMENT

There is an urgent need for continuing education programs which enable TAFE lecturers to update their technical/vocational knowledge and skills in their teaching areas, and there is an urgent need to provide ways in which teachers can keep abreast with technological change.
Examples of how this may be achieved include:

- industry owned equipment leased out-of-hours;
- industry owned equipment made available free out-of-hours;
- industry owned equipment lent on a short-term basis for 'real' work to be carried out;
- industry facilities used for teaching purposes with company staff as trainers;
- joint facilities, especially skills training centres and facilitator agencies;
- industry staff working in TAFE colleges on a paid or 'loan' basis.

There are already good examples of these.

Two ways to satisfy professional development needs are:

(a) to provide small research and development grants to TAFE colleges for those industrial/commercial areas represented in TAFE colleges;

(b) to release lecturers so that they can spend regular periods in industry/commerce.

There are four main problems with the implementation of retraining experienced staff. Firstly, TAFE staff do not enjoy the 'study leave' or professional experience program provisions, now taken for granted in higher education, and yet the needs for such programs in TAFE are at least as great as those in the higher education technology disciplines. It could in fact be argued that TAFE needs for this type of training are greater because of the present technological revolution and because of the immediate requirements of commerce and industry.

Secondly, the in-service training provisions for TAFE teachers presently made available by TAFE authorities are not compulsory, and so staff can quickly lose touch with new developments, especially those developments in their own subject areas.

Thirdly, there are only a few formal, TAFE authority training agreements between TAFE colleges and industry or commerce for staff exchanges or secondments. Presently-existing arrangements seem to have been made at the local, rather than at the state level. Even if there were formal arrangements, small colleges especially, would find full-time release of lecturers difficult without some financial compensation.

Finally, research and development funds (in the technical/commercial competence area) are not generally available to TAFE lecturers or to TAFE colleges. Furthermore, lecturers are generally regarded by funding bodies as teachers, not researchers, and so time cannot be allocated to research and development activities.
CONCLUSIONS

Important changes to the delivery of TAFE courses can be expected over the next few years. This will affect how and where learning takes place. It is essential that there be appropriate staff development to ensure that changes take place smoothly.

Some will have been surprised by this section. They will have expected comparisons to have been made between different kinds of technology, a debate on the strengths and weaknesses of the video disc, and predictions on when optical fibre is likely to replace the satellite. Such people need to remember that vehicles of delivery should be just that; and that the nature of what is delivered, who prepares it, and how useful it is to the recipient, are the really fundamental delivery issues.

ACKNOWLEDGEMENT

Recent Centre reports have been drawn upon for this section.
7. CURRICULAR ISSUES

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Over the next decade, the TAFE sector will achieve considerable maturity. In terms of curricular development, this maturity will become evident with a move away from detailed curricular documentation towards reconciliation of philosophical issues and enhancement of the quality of course delivery to students.

Specifically the moves will consist of:

a reconciliation of the philosophical issues which confront the sector

(e.g. determination of whether curricular development is based on different philosophies for different categories of courses, and whether the importance of students as clients varies according to the category of course);

a more comprehensive view of appropriate ways to meet the needs of industry

(e.g. more debate on the advantages and disadvantages of such procedures as modularisation of courses, "competency-based" education and testing and matching courses with career structures); and

a growing emphasis on the learning needs of individual students through:

instructional design (focusing on student circumstances, their preferred learning styles, and the design and development of appropriate learning materials);

alternative methods of course delivery; and

cooperative partnerships with other public and private providers of education and training.

This shift in directions and the issues which need to be resolved are outlined in the following sections.

1The author gratefully acknowledges helpful discussions with David Rumsey and Roger Mathers.
RECONCILIATION OF PHILOSOPHICAL ISSUES

Diversity of Values

The values and beliefs held by curricular developers designing TAFE courses seem to vary from one program to another. For instance, consider:

- courses designed to develop the ability to perform productively in prescribed fields of employment;
- courses designed to enable individuals to engage in personal pursuits or achieve some measure of self-fulfilment;
- courses designed to prepare students to enter other studies;
- and
- courses designed to develop and empower individual students not only to perform vocational tasks, but also to adapt, anticipate and control change, and be proactive in social and industrial settings.

Different philosophies seem to underpin such varying categories of courses. For example the requirement to satisfy certain critically important skill needs of industry seems to be of a higher priority in some courses than improving students' problem-solving abilities. On the other hand, the need to contribute to the artistic and creative development of individual students seems to be more important in some course areas than the productive use of such skills for society as a whole.

Hence, there seem to be different assumptions about the primary purposes of various courses, and these assumptions are used to select some content and reject other.

Moreover, the different values which can be ascribed to these different programs leave fundamental questions unanswered, e.g.

- Who is TAFE's primary client? (students, industry, governments...);
- Which needs of society are paramount? (economic, social, individual...).

The position adopted by the Kangan Committee (Australian Committee on Technical and Further Education, 1984) on this and other curricular matters was explicit. However, current practice appears to assign particular values to certain categories of courses and different values to other categories of courses. It seems to be the curricular developer who is left to reconcile the often competing requirements of various stakeholders without a guiding philosophy.
Hence, the TAFE sector, as a whole, needs to reconcile values and beliefs which support such diverse provision. The sector also needs to state clearly whether different values underpin different categories of courses or whether different categories emanate from a single unified philosophy.

Assumptions underlying vocational education

Taking the vocational educational element of TAFE alone, philosophical conflicts will need to be resolved. For instance, even in seeking purely utilitarian ends such as Australia's international competitiveness, TAFE's role can not be a responsive one only. TAFE must also anticipate trends and be proactive so that graduates will be prepared to deal effectively with situations not yet encountered or not yet perceived generally in the community.

Consider also the currently favoured training responses to social and technological change. It is ironic that, in times of rapid change, there is a strong demand for the sole development of purely functional skills for initial employment, supplemented by the continual retraining of individuals in new functional skills as change occurs. Yet, in times of change, an appropriate focus, even from instrumentalist perspective, is on the development of thinking skills. Only through such an emphasis will individuals learn to adapt, create, invent, work in teams, and engage in autonomous learning. Only through such development will graduates be inventive, productive, versatile, adaptive and functional in the work place; and able to take more individual responsibility for their own future learning.

The sector still needs to work diligently to convince governments, employer groups, and the wider community that the economic future of Australia will not be assured by removing such goals as individual self-fulfilment and conceptual and affective development from the curriculum.

Assumptions underlying individual development

Similarly, in developing individual student abilities, there is a number of philosophical issues which need resolution. For instance, the sector needs to clarify its role in:

- developing, within curricula, such abilities as self-awareness, social awareness and critical judgment within the context of vocational, social and individual student goals;

- utilizing curricular development as a political tool (e.g. in selecting curricular content to correct social injustices and to empower students to criticize and alter vocational and other aspects of the society in which they will work and live).
For such reasons as these, TAFE will need, over the next few years, to articulate a unified philosophy on which to base the development of:

- vocational competence for current and future employment situations;
- individuals in the fullest possible way for individual satisfaction, vocational purposes and community life; and
- people to deal effectively with changing social and vocational contexts.

If it is appropriate that the identity of the primary client and the primacy of needs vary across categories of courses, then such a position should be stated explicitly and tested within the community and the sector itself. On the other hand, if these practices can be reconciled in a unifying philosophy, such a philosophy also needs to be developed, stated clearly, and tested amongst the stakeholders.

Curricula will need to be designed and implemented consistent with such stated values, and responses to political agendas should be developed from this clearly articulated philosophy.

Governments will continue to use TAFE as a political tool in responding to social and economic problems. For these reasons, the sector will need to rely on its philosophy in accommodating such demands within its repertoire of programs without prejudicing its basic belief system.

**MEETING THE NEEDS OF INDUSTRY**

During the past decade, TAFE has learned a great deal from its interaction with industry. It has confirmed the need for vocational educators to develop those skills which are needed in the workplace and to consult industry about current work practices. However, it has also learned that industry, itself, is not very good at predicting vocational change, e.g. changes in the structure of the workforce and the skills needed in individual occupational categories.

Indeed, the extent and nature of human power requirements in various occupational categories are very difficult to predict even over short periods of time.

These lessons are relevant in considering vocational curricular responses to new and emerging vocational contexts.

In considering ways of developing vocational competence in a changing world, a number of approaches is available. They include:
recognition of key technologies (The Engineering Council, 1986);
recognition of the nature of change itself and teaching individuals to handle it effectively;
development of spiralling curricula; and
teaching from wholes to parts.

None of these approaches, alone, offers the full solution. However, each merits a consideration of the benefits it can contribute. The approaches are outlined below.

Key technologies

The important technologies for improving industrial competitiveness have been called key technologies (The Engineering Council, 1986). Key technologies have been defined as "newly emerging topics in science and engineering which are likely to have a major evolutionary effect on an existing product or process or may lead to a revolutionary new product or service."

The Further Education Unit and the Engineering Council (1988) have illustrated examples of key (engineering) technologies by clustering them into those dealing with:

- materials (e.g. ceramics, suspensions, and biological materials);
- components (e.g. optical components and imaging devices); and
- manufacturing and processes (e.g. knowledge-based systems and non-destructive testing).

The key technology concept applies to fields wider than engineering and science, and analogies may be made for other required curricular fields. TAFE should recognize that change will certainly take place, even though it is difficult to predict the exact changes which will occur from key technologies, or from any other social or technological change.

One appropriate curricular response is to predict which technologies are "key" in the sense described above. This involves the prediction of the change, identification of applicable curricular content and the delivery of the required education and training.

Unfortunately such predictions are not easily made with any accuracy even over short periods of time.
Recognition of the nature of change

Another appropriate curricular response is to recognize the nature of change itself. This recognition leads to the consideration of a range of curricular solutions to the problems of change. These involve students acquiring the ability to deal effectively with change itself, and include the teaching of:

- transferable "knowledge about" an area, i.e. information, facts, propositions, theories;
- transferable "knowledge how", i.e. knowledge how to perform techniques, knowledge how to approach new situations, knowledge how to solve problems; and
- transferable attitudes, e.g. a desire and responsibility to retain a high level of competence in working life, confidence to approach change constructively, a sense of being able to deal successfully with change, and a sense of responsibility in controlling change.

A spiral curriculum

In seeking to teach transferable knowledge, TAFE could also consider greater use of spiral curricula. Such a response has been suggested by The Further Education Unit and the Engineering Council (1988).

A spiral curriculum is one where certain concepts are taught at progressively greater depth and breadth as the student advances through the subject matter. It integrates content horizontally and vertically by building progressively upon early content.

As change occurs, it is important for students to be able to transfer general principles and concepts such as problem-solving skills, an appreciation of systems and technological and economic awareness. TAFE curricular developers should consider whether spiralling curricula could be designed in specific fields of study, so that knowledge is developed at greater depth and breadth as the student progresses.

Then such content as problem solving, and technological and economic knowledge could be anchored on other parts of the curriculum whose relevance is more readily perceived by students. In addition, graduates would also be able to transfer concepts and problem solving skills to new work situations.

The use of a spiral curriculum to develop people for a changing work place can begin as early as primary schooling, continue through compulsory and post-compulsory education, and become focussed and consolidated in specific occupational categories of
vocational education. Hence, TAFE could consider working more closely with other providers of education and training to achieve a continuity in curricula aimed at developing technological and economic awareness, knowledge and skill.

Whole to part teaching

Worth considering and consistent with the concept of a spiralling curriculum is the adoption of a "whole to part" approach to teaching content of courses where the industrial context is undergoing change. In this way systems as wholes can be emphasised and students can transfer knowledge of systems irrespective of components. This approach, sometimes called the systems approach, considers a system as layers of increasing detail (The Further Education Unit and The Engineering Council 1988). Wherever possible, teaching and learning should start at the top layer and move down to the layer where detailed specificity skill and knowledge is required for a certain category of occupations.

In considering such approaches as those outlined above, curricular developers would need to move beyond specification of immediate and specific knowledge and skills to consideration of:

- the thinking needed in unfamiliar situations; and
- the enabling transferable cognitive procedures which can be learned

The resultant curricula would be characterised by students engaging in research, discovery and problem solving activities.

From such approaches students can learn not only specific functional skills but also to be more adaptable (Stevenson, 1987 (a), (b)).

These curricular responses to technological and social change are a recognition of the existence of generic knowledge in addition to competence in specified functional tasks. Clearly the choice for curricular developers is not between teaching for immediate vocational functionality and teaching for transferability. Both requirements exist. The question for curricular developers is the extent to which a comprehensive approach needs to be taken in specific circumstances.

This recognition also suggests that a more comprehensive view be taken of "competency based" education and training and modularisation of courses. The shortcomings of these concepts are outlined below.
"Competency-based" education and training

The currently associated emphases on "competency-based" education and training and on matching courses to career paths rely on narrow concepts of competence. Each "competency" is regarded as the ability to perform small specific tasks and to achieve predictable specified standards on these tasks.

Competence is regarded as the sum of individual "competencies".

The vocational world is not like that. It may have been like that for a decreasing number of jobs, at specific points of time, many years ago. However, true competence at work is becoming much more holistic than the sum of a large number of predictable, specific, functional skills.

For the last decade or more, jobs have increasingly required such abilities as:

- planning;
- dealing with wholes and processes rather than parts;
- logical thinking;
- diagnosis of situations;
- judgment;
- problem solving;
- the ability to cope with uncertainty;
- flexibility;
- decision-making;
- working with others and in teams; and
- adaptation.

Others (e.g. Holland 1980) also include in vocational competence, such abilities as communication, planning, logical thinking, information analysis for diagnosis and decision-making, clear and accurate writing, computation, manual dexterity, team work and the ability to cope with uncertainty.

Hence, real vocational competence, in many vocations, is not merely the sum of specific "competencies". Real vocational competence also includes knowledge and skill which is more generic and holistic. It includes abilities which have more to do with process than product.

Process and product competence are different and usually both are required in most vocations.

Recognition of process competence will be a liberating experience for vocational curricular developers in the 1990s. The opportunity will exist to look beyond immediate requirements to the near future, beyond narrow functions to whole jobs, and beyond behavioral competence to cognitive competence.
Clearly some skills are more specific and more product-like than others, and some jobs require fewer skills than others. It is appropriate and desirable therefore to teach and learn competence for such vocations. However, it is equally important to recognize that, for an increasing number of vocations, overall competence cannot be adequately represented as the sum of a finite number of observable behaviours.

Modularisation of courses and matching courses to career structures

The moves toward modularisation of courses and the matching of courses with career structures also needs to be re-examined in terms of process competence.

The division of courses into small self-contained units can have many advantages. It can:

- release students from studying content irrelevant to current aspirations,
- promote transfer of credit between courses as students move through life and different vocational roles; and
- secure economies in course delivery by combining students from different programs for common modules.

Similar advantages accrue when careers are divided into smaller occupations. Smaller units of learning can be attached to specific occupational points in careers.

However, these moves to break entire courses into much smaller components can destroy the coherence of the educational process. The subdivision of occupations and courses can overlook the integral nature of occupations and the education and training needed for vocational competence. It is not always possible nor desirable for careers, on the one hand, and whole courses, on the other, to be disaggregated into mutually exclusive and discrete units.

In many fields, there are areas of ability which do not attach to sub-units of occupations, but are required for the occupation as a whole. For example, the diagnostic problem solving skills required of a vehicle mechanic are not merely the sum of knowledge about individual vehicle components and the ability to repair faults in individual components. They also require knowledge of the whole vehicle, knowledge of interrelationships of components, problem solving skills and so on.

And, as the world of motor vehicles changes, higher order thinking skills will also be increasingly needed.
Hence in the next decade, providing students with a set of modules which when combined, add up to the sum of individual functional skills required in the current work place may not always be adequate. The entire set of knowledge for a growing number of occupations consists not only of individual units which can be disaggregated into smaller components; but also of:

- generic content;
- integrating principles; and
- process knowledge.

Such content is derived from consideration of the occupation as an integrated whole, its current and changing place in the industry as a whole, and the demands on employees to solve problems, adapt, and respond to changing occupational demands.

When reducing particular vocations to component parts, curricular designers will need to ensure that it is not just the obvious (and often, the more trivial) skills which are identified and taught. The risk that only the obvious will be taught is of particular concern when occupations are undergoing change, for it is the process knowledge which remains constant and transferable.

Thus, in meeting industry requirements, TAFE will need to consider very carefully the responses prescribed by others. The growing maturity of the sector should enable it to argue the case for more comprehensive approaches to educating individuals for vocational pursuits. Care will need to be taken to ensure the development of process competence as well as product competence through the acquisition of cognitive as well as behavioral skills and the teaching of wholes as well as parts.

**INSTRUCTIONAL DESIGN, COURSE DELIVERY AND ACCREDITATION**

Over the next decade increased credit transfer and the delivery of courses through modern technology will make all forms of education more open. This openness will result in a decrease in direct classroom interaction and will necessitate in the TAFE sector, expert instructional design.

There will also need to be a re-evaluation of relationships between curricular development and accreditation of TAFE courses. Because of the effort needed in instructional design and because of the need to avoid duplication of effort, curricular developers will need to leave the recognition of courses by external bodies to the accreditation process.

These matters are discussed below.
Instructional Design

The next decade will require from TAFE a greater integration of the developmental, implementational and evaluative aspects of instructional design. The currently used sequential processes of syllabus design, instructional design and evaluation will be inadequate. At the very early syllabus design stage, consideration will need to be given to the instructional process to ensure choice of appropriate learning experiences.

As explained earlier, there will need to be increasing attention given to the task of instructional design to support the learning of processes as well as products. There will therefore be a greater emphasis on learning tasks - the instructional tasks in which students actually engage to develop their thinking processes.

Instructional design effort will also need to be expanded to exploit fully the available technology, hereby achieving greater openness in the delivery and management of technical and further education.

Through increased openness learners will be able to learn at times, places and paces which better suit their circumstances and preferences. Technology will need to be exploited more fully to deliver and manage learning, in an interactive way, with high levels of dialogue among students and teachers. Instructional designers will need to give attention to the delivery of learning at the earliest possible point in curricular development.

This openness will characterise both oral and distance education. Fleximodal courses, where some parts are taken orally while others are taken electronically or through other distance techniques, will be more common. It will be the norm rather than the exception for students to enrol in a number of different TAFE and higher education, (oral and external) institutions to undertake a program of study of their own choice.

For these reasons instructional designers will need to be competent not only in undertaking the work described in the preceding section (e.g. in the horizontal and vertical integration of content in spiralling curricula, design of instruction to proceed from the whole to the part, and the design of learning processes which enable the acquisition of both process and product competence) they will also need to be able to:

- select types and levels of learning objectives;
- select learning processes applicable to program aims and objectives as well as the circumstances and preferences of the learners;
. design and/or acquire learning materials to suit the learning content and processes; and

. design methods of assessment, delivery and management which will encourage learning and make it an enjoyable and productive experience.

Cooperation with other Providers

Over the next decade, there will be an increased focus, in education and training generally, on student circumstances and needs, an increasing use of technology to deliver and manage learning and a growing recognition of the rigor of accreditation procedures. These developments will bring an increasing realization that TAFE is but a part of the overall educational and training delivery network.

Curricular developers will need to recognize student achievements gained formally and informally in other situations. Courses will need to be designed in ways which build on existing competence rather than requiring unnecessary re-learning. Awards will also need to be structured so that credentials can be obtained irrespective of the means whereby competence has been acquired.

Accreditation

Part of the impetus for greater cooperation among institutions and sectors in the delivery of education and training has been provided by current accreditation arrangements. The overall procedures for course design, course assessment, accreditation and national registration consist of such items as:

. consultation with industry;
. skills analysis;
. course design;
. implementation;
. course assessment;
. accreditation;
. registration; and
. course evaluation.

Through these processes, TAFE has been able to display its credibility and accountability publicly. Public endorsement and certification of standards has brought many benefits including:

. greater equity of award usage across tertiary educational sectors;
. a more credible basis for better articulation among courses;
. an improvement in the match between designed and actual curricula; and
greater external involvement in the affairs of the sector.

These, and accompanying arrangements for the recognition of training provided in the private sector will continue to facilitate articulation of courses across educational sectors. Over the next few years recognition of privately provided formal and informal training (including experiential learning undertaken while working in particular occupations) should be considered a priority.

Unfortunately, these processes have brought with them a certain cost. The cost is comprised of:

- a duplication of certain procedures;
- a large human resource effort;
- a large funding requirement; and
- a considerable bulk of documentation.

The relative benefit of devoting the same level of effort to other aspects of the provision of vocational education, e.g. the development of learning materials, must be considered.

Given the extent of industry consultation in curricular design in TAFE, the degree to which TAFE has adopted the accreditation procedures used in the advanced education sector needs to be reviewed. For example, the TAFE sector could rely on:

- speedy (less consultative), responsive curricular design coupled with rigorous accreditation procedures; or
- speedy, responsive accreditation procedures coupled with rigorous (more consultative) curricular design.

Since the case for good articulation to and from TAFE courses is compelling, some mutual recognition of accreditation procedures across the tertiary educational sector is necessary. Hence, the former alternative seems to be the more desirable, because of the need for:

- external accountability;
- strong articulation arrangements; and
- enhanced devolvement of decision-making and subsequent transference of responsibilities to colleges.

Such a shift would also release curricular development resources for instructional design activities concerned with meeting student needs in the implementation of courses.
If the former alternative is accepted, together with far greater autonomy for colleges in the area of curricular design, then the need for retention of many of the existing features of any new accreditation procedures will be important.

For these reasons, the removal of duplication should be achieved by a shift in curricular design effort away from those areas which are adequately handled by accreditation procedures, e.g. recognition of courses by industry, other educational sectors and the wider community. Curricular design could then focus more on analysis of skills, instructional design and delivery techniques. It could also concentrate on speedier development of submissions for accreditation.

Similarly, the extent of duplication between accreditation and registration processes needs to be scrutinised carefully and reviewed.

Another aspect of accreditation which will need continual review is the scope of the procedures. The extent to which procedures for TAFE courses should replace other community recognition/regulatory processes is questionable. Examples of other processes where replacement by state accreditation procedures might occur, but would seem unnecessary, include:

- . qualification for membership of professional associations;
- . recognition of privately provided vocational education and training;
- . licensing; and
- . regulation of entry to occupations.

In conclusion, many challenges will confront TAFE curricular developers in the coming years. As the sector meets these challenges with a growing maturity and self-confidence, the quality and availability of vocational education in Australia will continue to improve. The benefits will accrue not only at the individual level, but also at the industrial and national levels as people become better equipped to deal with a changing world.

REFERENCES


