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ABSTRACT

The literature on resource allocation principles was reviewed to develop a credible and workable conceptual framework for reviewing the resource allocation mechanisms that are currently used by state vocational education and training (VET) systems in Australia. Two basic approaches to resource allocation were identified: the passive approach, which emphasizes the role of resources in enabling expenditure to implement nonfinancial decisions by allocating resources to fulfill agreements reached through nonfinancial processes, and the active approach, which emphasizes earning or winning resources by demonstrating high standards of past behavior and is therefore based on allocation rules that deliberately incorporate the use of incentives and disincentives to influence the behavior of those seeking to receive the resources. Four models within the scope of the passive approach (demographic, incremental, profile/enrollment-driven formula funding, and specific-purpose funding) and four models within the scope of the active approach (performance funding, vouchers, competitive bidding, and commercialization) were explained. The relative use of the active and passive approaches to resource allocation by state and territory VET systems was examined, and the concurrent organizational, financial, industrial, and informational changes that would be required to make greater use of active approaches to resource allocation were discussed. (Contains 26 references) (MN)

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EXECUTIVE SUMMARY

The task of this consultancy is to use current writing on resource allocation principles to develop a conceptual framework for reviewing the resource allocation mechanisms which are currently used by state VET systems and to consider future directions. The focus is on the way resources are allocated by central funding authorities to recipient institutions and on the assessment of their effects in terms of the operational goals of efficiency, access, responsiveness, quality and client satisfaction.

The paper identifies two basic approaches to resource allocation - the passive and the active. In the passive approach, resources are allocated to fulfil agreements reached through non-financial processes. The emphasis is on the role of resources in enabling expenditure to implement non-financial decisions.

In the active approach, the allocation rules deliberately incorporate the use of incentives and disincentives to influence the behaviour of those who seek to receive the resources. The emphasis is on earning resources (usually in competitive settings) or on winning resources by demonstrating high standards of past behaviour.

Allocation models which take the passive approach are the demographic, the incremental, profile/enrolment driven formula and specific purpose funding. Those which take the active approach include performance funding, vouchers, competitive bidding (with administered or floating prices) and commercialisation. Each of these models are assessed in relation to the system's operational goals.

A further important funding principle which takes the active approach is achievement based resourcing - funding on the basis of standard competencies gained. This allocation principle rewards learning achieved, regardless of the teaching modes and methods used. It thus offers incentives to those responsible to refocus their attention from teacher-centred instruction to retaining students and to effective student-centred learning.

The paper argues that the active approach to resource allocation is only beginning to be taken in VET. Experimentation with competitive bidding in the training market is one example. As devolution continues the role and usefulness of this active role will increase. Its effectiveness in promoting the voluntary cooperation of colleges in achieving the system's operational goals will, however, depend on a number of important changes in the fields of organisational arrangements, budgeting, industrial relations and management information.

Stage 2 of this project aims to ascertain the relative use of these active and passive approaches to resource allocation by state and territory VET systems, and the nature of concurrent organisational, financial, industrial and informational changes that would be required to make greater use of active approaches to resource allocation.

INTRODUCTION

The purpose of the overall research project is "to increase the understanding of, and make a positive contribution to, the development of resource allocation techniques and practices within the VET sector". The project will "evaluate the approaches to resource allocation . . . at the State Agency and major provider levels. These approaches will be compared against an ideal approach to resource allocation. Essentially this process is one of providing an overview of current and emerging resource allocation practices".

The project is planned in four stages. The intention of this Stage 1 consultancy is expressed in its project description as follows:

> From a review of previous work in the field of resource allocation mechanisms a classification of existing approaches to resource allocation should be developed together with a description of characteristics, applications and limitations of the various approaches. Particular reference should be made to issues such as inputs, outputs, outcomes, appropriateness, monitoring and compliance.
>
> Based on this classification an 'ideal' or archetype resource allocation mechanism should be determined with similar description of applications and limitations of the model. The resulting method for classifying or describing should address issues such as outputs, outcomes, appropriateness, monitoring and compliance as well as inputs.
>
> The ideal model developed should be capable of being used in project Stages 2 and 3 as the basis for comparing the characteristics of the approaches currently in use at National, State and major provider levels.

Thus the purpose of this paper is to establish a credible and workable conceptual framework to assess the current resource allocation mechanisms used at the national, state and major provider levels of the Vocational Education and Training (VET) sector and from this to suggest an 'ideal' allocation mechanism. To be realistic, there is no 'ideal'; nor can there be. Every mechanism, no matter how carefully developed, will have its dysfunctional characteristics. Stages 2 and 3 should therefore be seen, not only to use the framework for comparing current practices, but also to critique the framework and the model itself to improve the relevance and value of both.

In principle, a good "mechanism" is an instrument which effectively achieves a specific purpose with a minimum of fuss. In the political science literature, an instrument is a means to implement policy.[1] Policy instruments are important in the context of decentralised and devolved systems. In centralised systems, regulations and instructions are used to implement policy made in head offices and specific purpose resources are provided to assist peripheral agencies to comply. When decision making authority and resources are devolved to agencies closer to the points of service delivery, policy makers must resort to a wider range of instruments to shape and condition voluntary agency decisions and behaviour. This has led to a greater scholarly interest in identifying and describing policy instruments and specifying the contexts in which they can be applied appropriately.

Seen as a financial policy instrument, a resource allocation mechanism is a means to implement policy goals through the way funds are distributed. A financial instrument works in two ways: first by supporting the resource-using activities of service providers, and second by establishing a network of incentives and disincentives which condition the behaviour of these providers. The first can be said to be a 'passive' and the second, an 'active' use of resource allocation. Since any 'ideal' mechanism which aims to condition behaviour must ipso facto be active, this paper concentrates on the latter view of resource allocation.

The focus of this paper therefore will be on ways by which policy makers can best design allocative mechanisms to "steer" the flotilla of semi-autonomous service providing agencies in directions consistent with the major purposes of the VET system. As this perspective on resource allocation might appear novel to some readers, the paper's first section sets the context for model development by locating the approach within recent writing about policy instruments and explains how resource allocation is seen as one of a number of tools designed to achieve policy goals. The section considers which goals can appropriately be pursued by allocative mechanisms and how effective these mechanisms are likely to remain over time. It also suggests how financial instruments can induce appropriate responses in the level and direction of employee effort and what organisational conditions are required for employees to respond adequately.

The second section considers two issues pertinent to the development of allocational models. Section three describes current models of resource allocation within the two approaches of 'passive' and 'active'. It then assesses each of the models with respect to key VET goals.

Bearing these theoretical considerations in mind, the fourth section considers the implications of funding authorities applying the principle of "purchasing" learning outcomes from VET providers (or to put it more euphemously, applying "achievement based resourcing"). Such a principle of resource allocation can be applied at any level of funding and regardless of whoever is the provider. Some of the complex issues involved in fully applying the principle are canvassed in considering its feasibility.

In a brief fifth section, note is taken of some implications for this project of the excellent work being done in developing the Training Market. The final section draws the threads together by proposing the elements of a feasible model of 'active' resource allocation which could be used in Stages 2 and 3 of this project.

1. INSTRUMENTS OF POLICY IMPLEMENTATION

1.1 Devolution and system steering

Under centralised systems, authority for both making and implementing policy is vested in head office. The agencies at the periphery which actually deliver the services are required to implement instructions and directives from the centre. The motivation and initiative of agency members is often low, partly because they feel little ownership over the decisions they have to implement.

In devolved systems, agency members are given more discretion over the use of their resources and over the decisions they make within system guidelines. Central policy makers are then required to develop subtle means of influencing the pattern and quality of effort of the staff in these service delivery agencies. Policy instruments are a prime means for doing this. The power of these instruments, and of financial instruments in particular, is evoked by Williams[2] who reports the hypothesis of (Adam) Smith that:

the mechanisms of external funding have a considerable effect on the organisational behaviour of institutions and on the educational activities that take place within them.

Gorringe[3] makes the point more directly:

> In colleges, as in all organisations, the way in which money is allocated, used and accounted for, drives the nature of the organisation.

1.2 Purposes

Policy instruments are mechanisms which are deliberately designed to influence target institutions and individuals to behave in ways consistent with a system's mission and policy goals. The basis for goal setting in Australian VET is the system's Mission Statement[4], namely to:

- Provide an educated, skilled and flexible workforce to enable Australian industry to be competitive in domestic and international markets.
- Improve the knowledge, skills and quality of life for Australians, having regard to the particular needs of disadvantaged groups.

This ministerial Statement sees the whole VET system as a strategic means - a mechanism - for achieving these purposes. Basically the community, through its governments, provides resources to the system to achieve these outcomes. In a sense, the VET system is a means to the ends stipulated in this Mission Statement. Because the community is interested in getting the greatest return for the resources it invests, a key test of any allocational mechanism will therefore be the extent to which it helps to maximise the efficient and effective delivery of these outcomes.

The Mission Statement is operationalised by a set of system goals which are described and explained in Towards a Skilled Australia (ANTA, 1994), namely:

- greater responsiveness: enhanced client choice
- enhanced quality: best practice and quality assurance
- improved accessibility: meeting the need for access for all
- increased efficiency: reduced costs allow more delivery

These goals provide more specific criteria than the Mission Statement for evaluating policy instruments, including resource allocation mechanisms. They will be used as operational criteria for assessing the allocation models which are proposed below.

1.3 Types of policy instruments

McDonnell and Elmore[5] identify the following four generic types of policy instruments:

- *mandates* are rules governing the action of individuals and agencies, and are intended to produce compliance;

- *inducements* transfer money to individuals or agencies in return for certain actions;

- *capacity-building* is the transfer of money for the purpose of investment in material, intellectual or human resources; and

- *system-changing* transfers official authority among individuals and agencies in order to alter the system by which public goods and services are delivered.

Appendix 1 amplifies the nature and appropriate application of these instrument types by presenting some of the assumptions and the consequences of the use of each. In practice, however, a policy maker rarely has a free choice about the selection of which instrument to apply, for as Howlett[6] observes:

> Instrument choice is circumscribed by existing constitutional, political, social and economic circumstances which may encourage or constrain the use of particular instruments.

ANTA, state training agencies (STA's) and the central administrators of TAFE systems use different combinations of the above types of instruments to achieve their policy goals. It has already been noted that in the present devolved VET system, mandates are rare, i.e. there are few rules, regulations and directives about educational practices which are issued by central authorities. The fourth, which is the most dramatic, is used very infrequently. One could identify the restructuring and devolution of VET systems which have occurred in the 1990s, and the establishment of ANTA, as falling within this fourth category. Most currently used instruments, which come within the second and third categories, are intended to mould, persuade and make more possible, the voluntary behaviour of those in levels closer to service delivery. Some specific examples of non-financial instruments include:

- profiling

- quality assurance, TQM

- benchmarking and best practice

- information generation and dissemination

- performance indicators, and

- professional development

While these are non-financial, they usually have expenditure implications and usually are supported by financial grants. Each instrument is designed to influence particular aspects of decision making of targeted levels and institutions. Frequently, however, instruments are developed and applied with only a vague understanding of exactly how they might impact on the behaviour of those on whom they are targeted. Benchmarking and best practice, for example, may generate comparisons and reports without significantly improving the attention and effort which employees subsequently

invest in service delivery, unless they are supported by instruments which provide incentives to implement the results of the exercises.

1.4 Resource allocation as a policy instrument

Any resource allocation mechanism establishes patterns of incentives and disincentives - of financial sticks and carrots. The 'crueler' the resource environment and the more sensitive is allocation to provider performance, the more likely are providers to be responsive to these incentive patterns. Any 'ideal' mechanism will necessarily distribute resources unequally - to reward the winners, allowing them to prosper and grow, and to penalise the losers, forcing them to wane and wither over time unless they can improve their performances.

One wonders, however, how durable such allocational mechanisms will be i.e. how long they can remain effective. Anthony Morgan[7] suggests that any process which distributes financial benefits (to higher education institutions) unequally, will generate reactions among recipients which will lead to its attenuation. This is because significant differences in relative resource allocations to high and low performing institutions are likely to generate objections against the "inequity " of the allocation rules. Thus an allocation program which serves, say, efficiency purposes is likely over time to be caused by political forces to degenerate into a 'distributional' program which serves the purposes of equity but loses the power of financial incentives. An active financial instrument with clear performance incentives is likely through time to generate political pressures to have it transformed into a passive instrument.

As will be noted in Section 3, the Unified National System currently has some very active mechanisms for allocating funds for research and for quality self-assessment activities. While these are increasing the variances in institutional grants, the Commonwealth government is not currently receptive to calls for the introduction of more equitable means of allocating these funds.

1.5 Impact on service delivery

The role of incentives in affecting the work of state enterprise employees is explored by Harvey Leibenstein[8] in terms of the relationship between "environmental pressure" and the "effort choice". Imperfect information flows to managers about the consequences of their workers' effort allow employees a good deal of discretion in the exertion they devote to their work. Their choice is often to exert less than an optimal level of effort.[a] Leibenstein argues that environmental pressures are of two sorts - pressure from the "bottom" and pressure from the "top". By pressure from the "top" he refers to that originating from government-appointed boards which set targets and introduce performance indicators, benchmarking practices, and so on in an effort to direct and raise worker performance. On the other hand, pressure from the "bottom" arises when buyers or users of the service have alternative sources of supply. If these clients are unhappy with the consequences of decreased employee work effort, they can act in ways which decrease the revenue resources of these employees. Policy instruments can be designed to apply environmental pressures from both directions. Those financial instruments which affect the resource flows to employees are likely to be particularly potent in their capacity to influence work effort.

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[a] This type of problem, called the principal agent problem, is addressed in a body of recent economics literature. (For example, see Stiglitz, 1992)

Thus an important test of the effectiveness of any policy instrument is the extent to which it impacts on the nature and level of the work effort of middle managers, heads of studies and those who are directly responsible for service delivery - teachers in the workshop and the classroom. To quote Folger who writes about incentives for quality teaching in American higher education institutions:

> The agenda for excellence must be carried out at the grass roots but state incentives and accountability expectations can provide direction and encouragement that can mobilize the changes that are needed.

In any large system such as that of VET, there are several 'layers' of decision making -national, state, system, regional, local college and department, through which a policy instrument must maintain its 'vitality'. This vitality can easily be lost as a result of separate negotiations that are required for the instrument to be accepted at each lower level.[9] Thus while this project concerns allocation instruments or mechanisms at the more central levels only, it is important that their designs are sufficiently strong to penetrate through the successive decision making 'layers' to elicit positive responses in behaviour by the administrators and teachers in the colleges. No design will be strong enough, however, if the organisational and industrial arrangements in colleges deter staff from responding to the incentives embodied in these policy instruments. Some of these arrangements will be noted in the next section of this paper.

The other important source of effort is that of students themselves. The obviously crucial role they must play in achieving competency standards is often overlooked, largely because they are classed as 'clients' who 'receive' services, whereas they are better seen as co-producers of their own learning - workers, the level and nature of whose work is basic to achieving learning outcomes. The question of how resource allocation mechanisms might help to raise and direct students' effort choices is addressed in Section 4.2 below.

1.6 Organisational co-requisites of instrument use

Any instrument which is to contribute effectively to system goals needs to be supported by flexible organisational arrangements to permit appropriate, timely responses. It is therefore fitting that the Project Brief requires reference to ". . . the organisational structures . . . required to ensure the usefulness of the working models".

A number of organisational conditions need to be met if the incentives embodied in resource allocation mechanisms are to elicit adequate provider responses. Firstly the allocation methods used by service delivery agencies need to be consonant with those used by the central funding authorities.[b] Secondly budgetary devolution needs to be arranged so that those who make the important decisions concerning the efficiency, effectiveness and equity of service delivery actually receive a fair share of any resulting additional funding and benefit from any cost savings or conversely, bear a fair share of any adverse financial consequences of poor work or lack of enterprise. Education writers in the U.S.A.[10] refer to 'responsibility centred budgeting' (RCB). In this form of devolved budgeting individual teaching cost centres are responsible for their own revenues and expenses, or as Americans say, "every tub on its own bottom". Each centre receives a share of total recurrent revenue based on its contribution to institutional earnings. Then under an

b Hoenack (1994, 155) cites an extreme case of the Minnesta state legislature providing equal implicit budgetary rewards to the University of Minnesota for undergraduate and postgraduate instruction, but the internal rewards for postgraduate instruction were 20 to 50 times those for undergraduate instruction. Consequently its departments did not supply the large amounts of undergraduate instruction that would have earnt for the institution substantial amounts of discretionary funds - which could have been applied to postgraduate instruction.

internal pricing system, it is charged for services it receives from other centres. A system of subsidies can be provided to encourage these centres to undertake activities (such as teaching disadvantaged students) which pursue particularly important institutional goals.

Thirdly, organisational and industrial arrangements must be sufficiently flexible to allow managers and supervising teachers both to implement the learning innovations they believe will lead to gains for their responsibility centre, and to benefit corporately or individually from any resulting financial gains.[c] Some of the major difficulties in meeting these requirements are identified in the 1992 report of the NSW Vocational Education, Employment and Training Advisory Committee (VEETAC)[11]. They include:

- lack of incentives/rewards/recognition for staff (individuals or teams) who are performing competitively (paras 6.47 - 6.51)
- industrial limitations on staff availability (paras 6.68 - 6.71)
- central 'control' of staff arrangements (paras 6.88 - 6.71)
- culture encourages compliance and conformity (paras 6.76 - 6.77)
- inappropriate measures of staff performance (paras 6.78 - 6.80)

Despite these challenges, the VEETAC report sees potential for constructive change by simplifying the web of orders, agreements and structures which hamper flexible staffing arrangements.

Fourthly financial and educational information flows need to be detailed, accurate, timely and in forms which enable those in responsibility centres to monitor their own progress and to take remedial action when necessary. This refers to data about both student enrolment, retention and assignment submissions and to accounting information about the progressive levels and patterns of relevant incomes and outlays. It is unlikely that many TAFE institutions - even the largest - have developed management information systems which are sophisticated enough to serve these purposes.

Fifthly, and most fundamentally, adequate and appropriate responses to incentive structures require that educational decision makers (a) can understand and interpret the financial and management information they receive, (b) can plan appropriate innovations to improve their performance and (c) have the educational skills to implement these plans. A considerable investment in the professional development of college staff would thus be an important prerequisite of the greater use of financial incentive structures in teaching and learning.

The above review of the pre- and co-requisites of institutional responsiveness underlines the fact that no instrument -financial or non-financial - can be implemented successfully on its own. It requires a raft of concomitant changes to organisational and budgeting arrangements and to the knowledge and skills of those in the targeted institutions, to enable the instruments to work promptly and properly. One implication is that the research of Stage 2 of this project should collect information on these matters as well as on the resource allocation mechanisms themselves.

c These gains may be taken in the form of spending to improve working and/or educational conditions, as well as in additional remuneration. The former is less likely to create industrial relations difficulties.

2.0 TWO ISSUES UNDERLYING RESOURCE ALLOCATION APPROACHES

Section 2.2 of the Project Brief requires that:

> Based on a review of the literature, develop a classification system of models which describe characteristics, applications and limitations of the various approaches in use and those that could be used.

The models themselves will be described and assessed in Section 3. Before this is done, attention should be given to two fundamental issues which underpin all models. The first is the implication of basing allocation on an input compared with an output unit. The second relates to the role of government in funding education.

2.1 The unit of allocation

Virtually all current models of funding distribution in education use some form of input or input ratios as their basic units. The most common are student enrolments, equivalent full time students, class hours, student contact hours and staff-student ratios of various types. Even so-called performance indicators focus on the processes and input ratios. While their use is increasing, genuine output indicators are rarely used. Graduation rates are ambiguous output indicators unless there is a clear understanding of the content and standard of learning which has been certified. The Graduate Careers Council's employment data on graduates is one of the few real output indicators for Unified National System institutions.

The assumption underlying the use of specific inputs for resource allocation is that spending on more of the input will ipso facto lead to greater or better outputs. This in turn assumes a direct, positive relation between these inputs and resulting outputs. Despite much educational research, very little consistency has been found between changes in specific inputs and their intended learning outputs. A review of research by Angus, Brown, McGaw and Robson[12] found that the way resources are used by teachers and the motivation of students appear to be as important as the levels of inputs in deciding learning achievement.

There are two 'educationally unhelpful' consequences of basing resource allocation on input measures. The first is that if inputs are 'rewarded' by serving as the basis of funding, then the use of those inputs will be encouraged. Thus if student contact hours (SCH) are used as the unit of allocation, then the 'production' of SCH's will be encouraged (e.g. by lengthening units and courses) irrespective of the consequences on learning outcomes. The second is that supervising teachers will have little incentive to consider trying any other teaching method which requires less of the input which is used to calculate the resources they receive. Conversely, if resources are received according to learning outputs and if teachers can see benefits for themselves of achieving these outputs with fewer inputs, there will be incentives for them to consider more efficient teaching methods. By basing allocation on learning outputs, therefore, teachers are given more discretion and encouragement to search for better ways of student learning.

2.2 The 'Triangle of Tension' in Funding

Gareth Williams[13] argues that there is a basic tension to be resolved in the development of every (higher) educational resource allocation mechanism. This is the tension between three contending forces:

- the collective good, represented by the State
- demands of individual student consumers
- the interests of academic providers who are motivated by their own specialisms and their own self interest.

In the days when educational institutions were allocated general purpose block grants, academic providers chiefly determined what and how much was taught and the way it was taught. The third force dominated. Currently in VET, the State (on the advice of ITAB's and its own manpower planners) dominates. It basically acts as a single, monopsonist buyer of teaching services from academic providers. It negotiates with providers, the quantities and types of teaching services it will buy and the prices it is prepared to pay. The "training market" is not a "free market" because of this monopsonistic dominance.

A very different approach is to have the second force - the demands of individual student consumers - dominate in determining the level, composition and quality of education and training. This could be done with the widespread use of 'user choice', student entitlements, or vouchers whereby the State channels its finance to eligible individuals, who then use it to pay for the education they require from fee-charging educational institutions.

In this approach, the State financially underpins student consumers rather than academic suppliers. Its role then becomes one of making sure that the market works freely and efficiently by ensuring students have ready access to knowledge about the nature and quality of each provider's offerings and that they have transport assistance to attend the provider of their choice. Importantly also, the State feeds the results of its industrial advice and its manpower planning exercises to potential students in a form and manner which helps them understand present and likely future labour market trends.

There are a number of important differences between the State (i) dominating the training market as a monopsonist and allocating funds directly to providers and (ii) supporting and informing a freely operating training market and providing student consumers with the means of purchasing the services they require. Among the most important differences is where the onus of responsibility lies. In the former, the onus is on the State itself and on its advisers. This is a heavy responsibility and the possibility of forecasting and planning errors is high. Despite the amount of resources which have been devoted to the exercise, the experience of manpower planning has not been impressive, nor is it likely to improve as the rate of technological change increases. One could argue that a more defensible role for the State is to take the role of supporter and informer of a free market in education and training, allowing individuals to determine the composition of the services to be delivered.

The models which are introduced and reviewed in the next section will be assessed using a specific set of operational criteria. The above section has been included as a reminder that there are alternative political and ideological bases of strategic assessment (e.g. the priority given to individual student choice as a determinant of resource acquisition and allocation) which could be applied to all the models considered.

3.0 RESOURCE ALLOCATION APPROACHES AND MODELS

3.1 Allocation approaches

It is useful for our purposes to distinguish between two approaches which policy makers take in devising resource allocation mechanisms. The approaches derive from a basic duality in the role of financing - to enable and to encourage. Williams[14] hints at this duality when he says that:

> a financing mechanism is both a means of allocating resources so that learning can occur and a channel for messages between providers and users of finance.

This is a hint only, for finance is more than a channel for messages - it embodies incentive structures which reward and punish and in so doing, induce as well as inform, the behaviour of the users of finance.

The distinction is based on the difference in intentions of the mechanisms. It is not a sharp dichotomy, however, for any mechanism will be made to serve a number of purposes, so there are likely to be elements of both approaches in any single mechanism. Nevertheless its main intention is likely to be clear enough.

The distinction drawn is between passive and active approaches. In the passive approach, resources are allocated essentially to compensate for or to offset the costs of the recipients undertaking resource-using activities set by non-financial decisions and arrangements. Funds are allocated, for instance, to permit organisational units to respond to legislation, to teach members of specific disadvantaged groups, to support planned organisational change, to hire more qualified staff or to enable professional development to occur. A particularly important example is the use of finance to support the target activities which have been negotiated in educational profiles. Negotiations have to bear financial limitations in mind but the manner of resource allocation has little effect on the decisions of the negotiating parties. A major underlying concern will inevitably be with the fairness and equity of the resulting distribution among recipients. Overall, the role of passive resource allocation mechanisms is to carry out decisions made on non-financial bases. The focus is on the expenditure-enabling role of resources. Accountability checks the effectiveness of the funded expenditures.

The active approach to resource allocation deliberately incorporates incentives and inducements for applicant institutions or individuals to behave in ways consistent with the system's priority goals. The emphasis in this approach to allocation mechanisms is on designing ways by which the recipients have to 'earn' the resources they receive. In order to position themselves successfully to earn resources, applicants need to consciously review the direction, quality and levels of their work effort. One response may be to work 'smarter', rather than 'harder', that is to seek alternative ways to perform, in order to 'win' the resources they seek.

There is a range of allocation designs which fall within the active approach. One category is 'performance incentive payments' - rewards for those institutions which can demonstrate specific improvements as measured by performance indicators. Applicants are usually their own references, rewards being based on improvements over time.

A more important category currently is the use of market-like mechanisms where competition between applicants is the main lever of the allocators. In this, applicants use the performance of competitors as their reference points. Under these market mechanisms, resources are allocated for specific services to be supplied within a given time frame. The price to be paid per unit of service can either be stipulated in the call for bids or left as a bidding factor. Accountability is usually in relation to contractual obligations.

The particular market-like model used to allocate public sector funds, typically referred to as "competitive bidding", invites tenders from either public institutions alone, or from both public and private sectors. Selection is usually made on the basis of "value for money".

A further market-like model, "commercialisation" is not an allocative mechanism as such, since it is a means of raising additional funding from outside the public sector. Activities within this model involve the selling of teaching services, consultancies and training materials to the domestic private sector and to overseas students and employers. It still qualifies as a financial policy instrument because it serves the VET's mission of "enabling Australian industry to be competitive in domestic and international markets" while having industry contribute to meeting VET costs. Moreover the vitality of the model in encouraging the independence and entrepreneurialism of college staff depends heavily on the terms and conditions which policy makers set for the sharing of 'profits' from such activities.

3.2 Goals appropriate to allocational approaches

The basic role of resources is to permit production to occur, so this is not an issue in distinguishing between active and passive resource allocation approaches. The relevant issue is the locus of the incentive and disincentive pressures which 'lever' the decision making of recipients in ways affecting the direction, level and quality of organisational performance. Are they deliberately incorporated in the resource allocation mechanism, or are they essentially located outside them? If the former, the mechanism qualifies as being active, and if the latter, then it is classed as a passive mechanism.

We should recognise that not all of a system's goals can be pursued appropriately by both mechanisms. The passive, expenditure approach appropriately supports strategic decisions concerning the general level and pattern of system production. Governments allocate budget resources to the VET system, influencing overall levels of activity, while chief executive officers authorise allocations of these given resources among programs, shaping the composition of activity. The relevant purposes pursued by such allocations relate to the sector's Mission Statement.

Independently and in support of other policy instruments, the active approach works within these overall passive allocations to influence operational decisions about the way in which productive activity is undertaken by service deliverers. Thus the purposes appropriately pursued by active allocational mechanisms are the operational goals of Towards a Skilled Australia, namely, greater responsiveness, enhanced quality, improved accessibility and increased efficiency. To these can be added (from the project brief) client satisfaction. These will be used as criteria to evaluate the models which are listed and briefly described in the next section.

3.3 Models

Three preliminary matters should be mentioned. The first is that models are categorised according to active and passive approaches. As has already been mentioned in Section 3.1, elements of both approaches can be and are being followed simultaneously at different levels and within the same levels of the VET system. If the behavioural effects of the passive and active approaches to allocation are significantly different, however, questions can be raised about the extent to which they can comfortably "coexist" over the long term. Could it lead, for example to 'competitive' and 'non-competitive' parts of a single VET system? What are the organisational and industrial consequences? This matter needs to be investigated if a single "ideal" model of resource allocation is to be recommended.

Secondly it should be noted that while neither registration nor accreditation involves funding, both are important tools of the funding process - particularly for private providers. The various quality criteria that have to be met in order to qualify for funding, act as important quality standards for facilities and staff to be reached before funding can be accessed.

The third preliminary issue is that auditing and accountability processes which check on the adequate delivery of activities for which resources were allocated, are not themselves part of the allocative mechanism. On the other hand the use of performance indicators to demonstrate superior performance to qualify for financial rewards, would be part of a performance-based resource allocation mechanism.

Models within the passive approach

The common characteristic of passive models is that resources are allocated to implement decisions made within non-financial mechanisms. Implicitly the main purpose of allocation is to enable spending on agreed activities.

1. Demographic

   Resources are allocated in proportion to resident populations within the jurisdictions of participating systems.

   An example is the current system of sharing ANTA funding among state systems. While there was provision for the Ministerial Council to allocate growth funds in 1995 "having regard to assessed performance against agreed objectives", these funds were still allocated mainly on the basis of population shares.

2. Incremental

   Resource allocation for any given year is based on that of the previous year, with increments or decrements being shared roughly proportionately across all units. The underlying premise is that the previous year's allocation was adequate and appropriate. Folger[15] points out that often 90% or more of the base is not re-examined; the allocation process takes the base as given and proceeds from there. The funding phase is expressed in financial terms,

not in work load or program terms. The incremental model restricts attention to the size of the incremental change to the base.

Five variables can enter into the decision process:

1. the number of additional students served or the increased amount of access provided;
2. inflation or other changes in the cost of acquiring or retaining necessary resources;
3. addition of programs or significant resources such as equipment or library holdings;
4. changes undertaken to improve institutional capacity, and
5. the funding authority's ability to pay.

There were numerous examples of incrementally based allocation methods used by the education systems of most states, at least until the mid 1980s.

3. Profile/enrolment-driven formula funding

Student loads are determined by non-financial means - either by social demand or by negotiations between the institution and the system authority to determine quotas and targets. Funding is determined by applying value weights to appropriate categories of unit or course enrolments. These weights usually are based on the relative average annual costs of teaching different types and levels of courses. For small institutions, there is usually either a fixed sum awarded or an additional weighting factor applied to student loads.

An example is the current method of allocating base operating grants to member institutions of the Unified National System (UNS) of Higher Education. The Higher Education Division of DEET[16] reports that institutional operating grants to UNS members in 1991 were determined using profiles which were negotiated between the Commonwealth, states and individual institutions. The funding formula was based on teaching load and research expenditure by discipline group, with adjustments made if load was less than the critical size for the relevant group.

4. Specific purpose funding

Resources are made available for those institutions which are prepared to provide stipulated services to meet specific priorities of the funding authority. These priorities could include equity programs for particular target groups of students, such as aborigines, or those with special disabilities.

If a specific purpose funding program uses competitive bidding, it should be considered as falling in Model 7 below.

Models within the active approach

Active models are designed to induce those who seek resources to behave in ways which pursue policy goals. The focus is on the earning of resources for (spending on) proposed activities, or on winning resources by demonstrating high standards of past behaviour.

5. Performance funding

This model allocates funding retrospectively on the basis of a set of valid, reliable performance indicators or on some other means of demonstrating the quality of practice.

The Dawkins Green and White Papers (1987, 1988) foreshadowed that this was to be the method used within the UNS once a "level playing field" had been established. However it was never implemented, probably because no valid, reliable set of indicators could be found which was acceptable to UNS members. Instead a Quality Assurance Review process was implemented, in which UNS members shared in a reward pool according to their ability to demonstrate their implementation of processes which informed them of how well they were achieving their institutional goals.

The Research Infrastructure Block Grants (Mechanism A) scheme allocates Commonwealth grants on the basis of an index of the value of nationally competitive research grants won by each Unified National System member. Moreover, the amount of money each UNS institution receives for distribution through its Australian Research Council's (ARC) Small Grants Program is fully dependent on the funding its staff win the previous year from the ARC Large Grants Program. There are thus major incentives for an institution to prepare its staff to submit high quality applications for ARC Large Grants.

6. Vouchers

This mechanism allocates resources to institutions indirectly through individual students, not through the various levels of a system hierarchy.[d] Each eligible potential student receives an entitlement to teaching services, which is redeemable on enrolment at registered institutions. The recurrent revenues of these institutions are derived from 'cashing in' the entitlements with the appropriate government Treasury. The government can issue entitlements of different values to particular categories of persons (e.g. disabled or disadvantaged persons could receive entitlements of higher value). Also the scheme is usually accompanied by government efforts to inform students about the range and quality of services offered by registered institutions, together with transport schemes to wider the institutions which students have the option of attending.

Educational vouchers have been trialed in the Alum Rock School District in California in the late 1970s. The British Government is proposing a voucher scheme where parents of every four year old in the U.K. will receive a voucher worth $2450 to go towards the preschool of their choice in the state or private sectors.[17] The Liberal-National Party Coalition proposed a National Education Award scheme for higher education students as part of its Fightback Australia platform for the March, 1993 elections. And currently, forms of educational vouchers are available to specific groups of people, e.g. new immigrants for learning English, training for long-term unemployed, schooling for isolated students.

d A variation of student financing occurs in the USA where the federal government's financial support of higher education institutions is mainly in the form of low interest loans made directly to students. This form of financing is a means of shifting part of the cost burden of higher education away from government - as HECS does in Australia.

7. Competitive bidding

This method allocates funds retrospectively by assessing bids from competing providers.[e] Competition can be 'quarantined' within the public system only, or open to institutions in both public and private sectors. Funding authorities can use 'administered prices' by stipulating the level of unit payments to be made to the successful bidder(s). Successful bidders then are selected on the basis of "value for money", determined on the basis of (i) the detail of their bids, (ii) their 'track records' and (iii) their estimated capacity to deliver at the level and quality of services required. Alternatively, funding authorities can allow the 'asking prices' of bidders to become part of the selection criteria.

The Higher Education Funding Council used competitive bidding with 'floating prices' in 1991-2, partly as a strategy to obtain a clearer idea of costs of higher education delivery in England. Competitive bidding experiments are currently being undertaken by all STA's, as part of the development of a Training Market in Australia.

8. Commercialisation

This policy instrument is designed to commercially market teaching services, expertise, facilities and training materials to domestic and overseas companies and individuals. Attempts to market full-fee mainstream courses have been more successful with overseas students than with employees of local firms. Most activity within this model involves custom designed short courses for industry, consultancy services in developing training strategies and the supply of training materials. Fees charged are expected to cover full direct and indirect recurrent costs and to contribute to the costs of capital facilities used. The extent to which such an active instrument can encourage the enterprise of institute and college staff depends heavily on the seriousness with which the institutions are seeking additional funds, and the way 'profits' are shared among those responsible for delivering the services.

TAFE Plus and the TAFE NSW International Students Unit are two current New South Wales examples of activities within this model.

3.4 Model evaluation

Figure 1 attempts a preliminary evaluation of the allocation models, using a four-point scale from "weak" to "strong" in their capacity to satisfy the evaluative criteria introduced earlier. This is no more than an impressionistic rating, with its value lying in raising questions and directing further investigation.

One reason for the difficulty in making any firm evaluations is that much depends on the detailed rules which designers include in any particular model. For example, whether vouchers provide improved accessibility for disadvantaged or leaning impaired students depends heavily on whether they are issued with vouchers of sufficiently high value to encourage providers to enrol them. Unless the detailed rules are known, therefore, the evaluation of vouchers with reference to accessibility must be "uncertain".

e Note that while tendering is used to fulfil non-financial planning targets, the way resources are allocated, with the emphasis being on tenderers having to 'earn' or 'win' their contracts, classifies the mechanism as lying within the 'active' approach to allocation.

Nevertheless, Figure 1 indicates that overall, models within the 'active' approach are likely to contribute more positively to system objectives, than those in the 'passive' category.

One further comment to be made relates to the close interrelationships between models. Competitive funding, for example, should not be considered as an alternative to performance funding, but as a complement. As shall be discussed below, there are good reasons why competitive bidding should not be used to allocate all resources. The considerable proportion of resources not allocated by competitive means could well be allocated to institutions on the basis of performance funding. Further, while specific purpose funding mechanisms which pursue, say, equity goals, have been classed as passive instruments, they could be allocated by competitive bidding procedures. The presumed purpose of policy makers would be to find the providers who can pursue equity goals in the most efficient manner. The different goals are required to be served by different mechanisms.

Figure 1

Preliminary Evaluation of Alternative Models

Models	Greater responsiveness	Enhanced quality	Improved accessibility	Increased Efficiency	Client satisfaction
Passive approach					
1. Demographic	weak	weak	neutral	weak	weak
2. Incremental	weak	weak	neutral	weak	weak
3. Profile/enrolment driven formula	neutral	neutral	neutral	neutral	neutral
4. Specific purpose funding	neutral	neutral	strong	neutral	weak
Active Approach					
5. Performance funding	positive	positive	neutral	positive	uncertain
6. Vouchers	strong	uncertain	uncertain	neutral	strong
7. Competitive bidding					
administrative prices	strong	strong	positive	positive	strong
floating prices	strong	positive	neutral	strong	positive
8. Commercialisation	strong	positive	weak	strong	strong

Scale: weak
neutral
positive
strong
uncertain (depends on specific model rules)

4.0 FROM FUNDING INPUTS TO FUNDING OUTPUTS

It was noted in Section 2.1 above that a potentially important feature of any 'ideal' model is a reorientation from teaching activities to learning achievement as the unit for calculating resource allocation. Such a switch would be consistent with the general purposes of public sector management reform, the Mission Statement, Australian Vocational Education and Training Management Information Statistical System (AVETMISS) statistical developments and educational developments such as competency based training (CBT), alternative learning pathways and flexible delivery modes.

As a financial device, the basing of resource allocation to institutions on learning achievement measures such as module and course completions rather than the input measure of student contact hours (SCH), has major implications for the incentive structures facing teachers. To illustrate, SCH's are based on counts of class enrolments usually taken at a census date in the first week or two of classes. The costs of attrition after that date are effectively borne by the funding authority. If funding is based on course completions, the costs of attrition are effectively borne by the teaching institution. There is thus an incentive for the institution to enrol students more carefully, to discover why attrition occurs and to reduce it where possible, by working harder to maintain the motivation of students to complete and by providing alternative modes of study for those students who are motivated but due to changed circumstances are unable to continue attending classes. This could involve rescheduling classes or offering some means by which students could continue studying from home. While these options have always been available, there has not been the incentive for heads of studies to consider them seriously. More generally and more importantly, however, the current SCH basis for allocating resources within state systems promotes and supports the traditional model of face-to-face teaching and provides little inducement for teaching institutions to develop more flexible modes of delivery.

To argue that the switch to a learning achievement basis of allocation is logical and justifiable is not to say that its immediate introduction is wise. There are many important issues which need to be considered and debated before there is a clear understanding of the conditions under which a learning-based model of allocation can or should be developed and implemented. Among these issues are questions about the nature of the education process and its implications for the widespread use of CBT, the feasibility of separating learning from teaching and the validity and reliability of assessment processes. These need to be considered briefly before funding implications are addressed.

In the 1970s, the Kangan Report sparked a lively, productive debate over whether technical and further education should be oriented towards giving students a general education in and understanding of technical principles or a training in specific workforce skills. Recent developments seem to have largely ignored the former and considered the function of VET to be narrowly that of training for enterprise and industry. While the widespread use of CBT has helped to focus teaching activities, this may be at some long term cost to Australia if it is found that narrowly trained workers are not easily retrainable to cope with changing consumer demands or with the requirements of new technologies. On the other hand, if CBT methods manage to de-emphasise teaching and support student learning of competencies, there will be investment in lifelong learning. Such a de-emphasis would require a major sea-change in the attitudes of 'instructors' to their educational roles.

Secondly a focus on learning has highlighted the fact that there are many pathways to acquiring skills, knowledge and attitudes. People learn in different rates and in different ways. The important question is not how, but whether, they have learnt. This helps to liberate thinking away from the lock-step, time-bound processes of traditional teaching methods. Students TAFE institutions can now learn in their own way, in their own time and at their own pace. The way is now open for more flexible delivery methods to be used.

A crucial practical issue in the successful implementation of CBT is the reliability and validity of the assessment of competencies. A great deal of effort is being expended in ensuring that every subject has clear, meaningful objectives, that these objectives can be translated into specific competency criteria, that the methods of assessment are consistent with these criteria and they are fairly and consistently applied. Nevertheless, if those who teach subjects are to be those who assess their students, and if there are financial implications on the results achieved, there is always the possibility that judgments about student assessment will not always be impartial and objective. The experience in all states with driver license testing has shown that that there are opportunities for the corruption of the assessment process. Are there sufficient checks and balances in the CBT assessment system to ensure that it will gain and maintain the confidence of employers and the community in general?

These matters aside, it is clear that ANTA is pushing state agencies towards collecting statistics on a learning-outputs basis, but it has yet to consider seriously the implications of resource allocation to public and private providers being based on these statistics. This is an appropriate occasion to consider some of these implications, including implications for students as well as their educational institutions.

4.1 Practical issues

Differential impact across teaching areas

The teaching activities of some courses will be affected more than others by allocation on the basis of learning completed. Achievement based funding would have least impact in the apprenticeship areas, where attrition is not a great problem. It would have a greater impact in areas such as accountancy which traditionally have a significant number of part-time students and where attrition rates are higher.

Before any such funding model were implemented, there would therefore be a need to identify those courses with high attrition rates and to identify the likely extent to which these rates may be influenced by provider practices. (The first task should be a relatively simple matter once the AVETMISS scheme obtains the relevant data.)

Price differentials' for target and over-target completions

Once institutions are given their learning completion targets, they should be left to decide their enrolment intakes required to achieve these targets. The unit value of completions in excess of their targets could be set higher or lower than that for target completions, depending on whether policy makers wish to encourage or discourage training throughput.

Cost differentials of alternative modes of learning

The determination of unit values of target completions raises a host of complex issues. One is that each delivery mode has different implications for the structure as well as the level, of costs. For example, distance education modes involve high up-front, fixed costs - particularly if they require the production of audio-visual materials or the use of computer-managed learning. Once produced, the marginal costs of delivery are usually quite low, so there are considerable 'economies of scale' to be obtained. The average costs of subjects taught by distance education modes therefore depend heavily on student throughput over the life of the materials. This has a number of positive and negative implications for institutions in rural areas, and for the competitive bidding process among a number of small, independent providers.

The basis for valuing learning completions

The current ANTA project on delivery cost relativities is seeking to understand factors affecting unit delivery costs in VET. While its interest includes the costs of supervising students' learning activities as well as classroom teaching, it is still basing its analysis on the input measure of average contact hours by teaching area. The project will publicise cost relativities among states, by categories and levels of courses. This is in the expectation that incentives will be given to state authorities to investigate why the costs of teaching in certain areas are relatively high.

In the short term at least, such an information sharing process is unlikely to impact significantly on college teachers and administrators. Their concern with cost and efficiency issues is likely to be enhanced, however, if they are told they were free to distribute for their own purposes, any surpluses from a budget that was based on their achieving specified learning achievement targets. They would then know that they would be the beneficiaries of any economies and efficiencies they could make in their teaching methods.

The question remains, however, as to whether the costs of teaching ought to set the standard for the prices to be paid for learning achievements. The greater the range of delivery modes used to gain specific learning, the less reliable or meaningful is the unit costs of face-to-face teaching as the basis for determining prices.

Economists would go further to question whether a pattern of prices set on the basis of relative production costs provides the right signals to guide the composition of production in the training market. They would argue that a more defensible basis for setting the prices of specific learning achievements is the marginal value in the workplace of the skills and competencies which are learnt. The practical problems of establishing such a set of values are formidable but further research on the possibilities of adopting this more rational approach to pricing would seem to be justified.

Equity implications

If providers are rewarded on the basis of completed learning, they will have an incentive to give preference in recruitment and enrolment to those most likely to complete the learning with least time and cost to the provider. Thus those who come from educationally deprived backgrounds, or who are learning impaired, could be overlooked at enrolment time. This is one reason why the 'purchase of learning achievements' approach to resource allocation cannot be taken alone - it must be supplemented with other elements (such as the inclusion of access indicators in performance funding arrangements) which protect equity considerations.

Completion of courses or modules?

This issue illustrates how different bases for payment establish different incentive structures. If payments are based on course completions, institutions will benefit by their administrators shortening courses and moving students through to successful completion as quickly and cheaply as possible. Accreditation requirements will limit their capacity to reduce the total course content but if payment is on the basis of completions only, there be an incentive to offer generous Recognition of Prior Learning (RPL) and credit transfer policies, consistent with students being able to handle the remainder of their courses. Conversely there will be disincentives against losing good students. Institutional administrators could thus discourage good students from joining courses in other institutions. They could also prevent poorly performing students enrolled in other institutions from enrolling in subjects at their institution, or to require them to enrol on a full-fee basis.

The impact of these 'dysfunctional' incentives is attenuated if payments are made on the basis of module or subject completions. Providers would be less interested in shortening students' study programs and more willing to accept the subject enrolments of students enrolled in the courses of other institutions. More significantly, the practical issues of financing institutions on the basis of module completions are less complicated and more flexible than those based on course completions.

Paying on the basis of learning achievements

Institutions obviously must be given the funds to meet the costs of teaching which lead to the completion of learning. The longer the gestation period between the commencement and the completion of learning, the more funds must be provided and expended before the results of the teaching on students' learning achievements are known. Thus while course completions provide a more logical endpoint on which to base payments, the intermediate points of module completions provide more operational bases for a determining a continuing flow of payments. An ideal model would probably incorporate both module and course completions in determining resource allocation. Further investigation is required to assess the relative importance which should be given to each basis.

Assessment of achievement

Finally it is worth re-emphasising that the viability of any system of allocation based on learning achievements would place enormous pressures on the reliability, validity and fairness of the methods of assessing these achievements. Further investigation is needed to assess whether the current CBT assessment practices are sufficiently robust to stand against these pressures, and if not, what would be required and how long would it take, to make them strong enough to fill this role.

4.2 Student co-production of learning achievement

The major contributors towards learning achievement are not institutions but the learners themselves. They are not passive recipients who respond mechanically to the teaching services they receive, but are active participants in their own learning. Too often they have been considered 'clients' rather than 'co-workers' with their teachers in the acquisition of competencies. One longer term impact of the implementation of resource allocation based on learning outcomes could well be to shift the attention of both teachers and students away from teacher - dominated instruction to student - centred learning..

What then is the role of an 'ideal' resource allocation mechanism in encouraging the 'co-production' of students with their teachers in the more purposeful achievement of competency standards? An answer requires an appreciation of the sources of student learning inefficiencies. Benson[18] argues that lapses from acceptable standards of learning efficiency generally take one of the following forms:

- an excessive rate of wastage
- an excessive rate of student repetition of classes
- a high rate of student failure in examinations (whether actually recorded or as perceived by potential employers)
- a progress of instruction which is too slow and drawn out.

The previous section noted that the second, third and fourth of these problems are being addressed by the introduction of competency based training (CBT). So the use of 'passive' funding to support the implementation of CBT as a major education innovation would help lay the foundation for the successful implementation of achievement based funding mechanisms.

The root causes of wastage probably go deeper than can be alleviated by CBT, however. Ogletree[19] found the following reasons for students leaving the Chicago Urban University in their first year: dissatisfaction with grades (41%), high tuition and fees (36%)[f] , family responsibilities (31%), insufficient financial aid (29%) and personal problems (27%). If these factors are broadly relevant to VET students there is a case for some resources being provided for increased student financial support. In Australia, however, financial aid for students has usually been provided out of separate funds than those budgeted for institutional support. Nevertheless it is possible that when/if colleges are able to accumulate financial surpluses, some colleges may choose to offer their own scholarships to reward those students who achieve excellent results.

The U.K. educationist, Sir Christopher Ball[20], has seriously considered ways to reward improved levels of student attainment. The third of his ten points for better educational performance is:

f There is likely to be a high intercorrelation between dissatisfaction with grades and with (too) high fees. A person who is failing subjects could well rationalise dropping out as being due to high fees.

Incentives for the individual who achieved the new ordinary diploma and advanced diploma, in the form of guaranteed access to further and higher education; means-tested support for students from underprivileged backgrounds; and social rewards such as giving people who achieve qualifications a one-year advantage over their peers in eligibility for a driving license.

A more tangible approach to rewarding students was taken by the Stanwell Skills Development Project in Queensland. Whitely and Duggan[21] report that this program, which trained the construction workforce of the Stanwell Power station, near Rockhampton, allowed apprentices to progress through training and assessment at their own pace but they received pay increases that reflected their progress. Pay was increased as apprentices moved through the four levels of the apprenticeship. One student is reported to have stated the obvious, "The money is a good incentive to move through the course quickly."

Fee charging is another policy affecting student motivation. Fees are usually considered by educational policy makers as a means of shifting the costs of teaching on to the learners and their families. Debates over fees usually focus on equity issues, particularly the discouragement of potential students from disadvantaged home backgounds. These debates often overlook the positive incentives which fees give to students to complete their studies in minimum time.[g] Experience in Australia and New Zealand shows there is no strong evidence that fees are a factor in student attrition, once students are enrolled. Despite the above results from the Chicago Urban University dropout survey[h] a recent survey of post-secondary students in New Zealand[22] found that once enrolled, only 0.16% of university students and 0.06% of polytechnic students considered dropping out of their courses prematurely because of tertiary fees. In Australia, the deferred payments system of the Higher Education Contribution Scheme avoids fees being an immediate burden on students. Moreover, for students in employment it is often the practice that employers support their employees who otherwise must pay full or up-front HECS fees. Polonsky[23] finds that this is a factor in explaining the low the impact of the introduction of HECS on enrolments in graduate management courses at the University of Newcastle in the early 1990s.

A final point is that student success at learning with CBT is not only a matter of incentives - it is also a matter of the preparation of students to play an active role in their own learning. This presents the challenge of helping most students to unlearn old "passive recipient" learner roles they have acquired during their schooling and to learn more "active engagement" attitudes and techniques required by CBT. The benefits of their acquiring such attitudes and techniques would not only be in their immediate course learning but in their life-long need to relearn and retrain as technology and market demand changes employment needs.

There are thus strong arguments for the proposed 'ideal' resource allocation model to provide specific purpose funds for the induction of VET students into the self-reliant learner approach which is required by CBT. The funds could be used for the professional development of teachers and for the provision of general induction courses and guidance services before new students commence their formal studies.

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g In 1993/4 the Commonwealth government attempted to impose higher HECS charges on students who failed to complete their courses within stipulated times. The move was voted down.

h Note that the CUU survey was of those who had dropped out. The NZ survey was of those who were currently enrolled. There are important differences in both the cohorts and the perspectives of the two surveys.

5.0 THE TRAINING MARKET

The competitive training market is clearly an active financial policy instrument which should be incorporated in any 'ideal' model of resource allocation. Considerable attention is currently being given to understanding the theoretical basis of marketing training services[24], pilot projects are running in all systems and ideas and experiences are being shared at conferences on the topic.[i] States and territories are basing their planning of future developments on these experiences and recommendations.

The particular interest of this project is in the training market as an active allocation mechanism which serves the main delivery goals of the VET system. The most relevant and recent assessment that has been made of current training market developments has been the report of the Western Australian Department of Training .[25] It finds that there is agreement emerging that competitive bidding does promote efficiency and responsiveness in VET, particularly if there is direct competition promoted between public and private providers (i.e. that competition is not 'quarantined' within the public sector alone). There is also a realisation that efficiency benefits are greatest when competitive bidding is confined to longer courses. The study also finds that quality assurance can be at risk if tenders are chosen on the basis of lowest priced bids. One method of safeguarding quality is therefore to base selection on 'value for money' criteria i.e. price in the context of the service being provided.

The WA researchers have found little evidence that access and equity provision has been adversely affected by competitive training market processes, partly because these issues have been included in selection processes and partly because of "value for money" criteria (rather than lowest price bidder) has been the usual basis for selection.

In short, the training market is emerging as an important active resource allocation mechanism. Its use will be expanded steadily over time, as more experience is gained in its use. One implication is that at least in the medium-term future, the current non-financial profiling exercises will continue to provide the main means of determining student places. The other active financial mechanisms such as performance funding therefore will still have an important part to play in 'steering' the VET systems.
It is noted that a 'future direction' of the Western Australian Department of Training project is to study:

- the feasibility of contracting for the provision of skills rather than course delivery in a specified period of time

This suggests that there could well be collaboration between Stage 2 of the WA project and Stage 2 of this project, at least in terms of their common interest in allocation based on learning achievement.

i For example, the NSW Board of Vocational Education and Training held a Competitive Training Market Conference - Winning Strategies, on 15th June 1995.

6.0 THOUGHTS ON THE NATURE AND STRUCTURE OF AN IDEAL MODEL

The following principles emerge from what has been said:

1. The model should accept as a given constraint, the basic requirement to provide the resources necessary to support the levels and patterns of the production of skills and competencies required by the national and state/territory plans for VET.

2. Within this constraint, the model should be conceived as a set of interrelating financial instruments designed to work in conjunction with other policy instruments to promote the sector goals of responsiveness, quality, accessibility, efficiency and client satisfaction.

3. The emphasis of the model should be on the manner in which resource allocation criteria and processes embody incentives which 'steer' the discretionary actions of targeted recipients in ways consistent with the above goals.

4. The ultimate test of the model should be its positive effects on the awareness and behaviours of those directly responsible for delivering services to students i.e. administrators, head teachers and support staff in both private and public institutions.

5. The incentives embodied in the allocation model need to penetrate through the layers of devolved decision making to impact on supervisors at the department or work team level. This implies that the developers of the model need to be interested in allocational practices between and within the budgeting and administrative levels in each TAFE system.

6. The most appropriate level for designing and implementing such an allocational model is that of the State Training Agency. While most systems have either introduced or are in the process of introducing arrangements whereby the STA's' policy-funder role is differentiated from the training provision role, the criteria they use for allocating public funds will have a major impact on structure and practices of their constituent training systems.[26]

7. The models need to take due cognisance of changing organisational and industrial practices. A thorough review of the use of financial models should therefore be made at regular intervals - between three and five years, depending on the rate of change of these practices.

6.1 Elements of a proposed model

1. Consistent with the constraint of Section 6.0.1 above, the proposed model should allocate a major part of the recurrent resources available for both private and public providers be on the basis of learning achievements , as measured by module completions.

2. In preparation for (1), specific purpose payments should be made both to support the professional development of teaching staff, and to help prepare students to learn efficiently with competency based training.

3. While the initial basis of 'pricing' each module completion should be on its 'length', the estimated hourly unit cost of teaching the module face-to-face, and adjusted for an acceptable attrition rate, work should be undertaken to establish a more defensible basis for setting 'prices'.

4. Most of the remainder of the available resources should be allocated on the basis of performance as measured by an agreed set of indicators.

5. Special appropriations should be provided for the education of disabled and identified disadvantaged groups. These should be treated as allocations to meet community service obligations and incorporate, wherever possible, incentives to encourage efficient delivery.

6. If it is considered necessary to preserve the viability of small rural TAFE institutions, they should be supported by incorporating an additional loading to the estimated hourly unit cost of their teaching of a specified range of subjects.

7. The training market should be extended to provide further competitive pressures on public providing institutions. The actual extent and nature of this extension should be determined in consultation with those who are currently researching market activities.

8. Institutional funding should be on a rolling basis and involve contracting recipients to deliver specified levels and patterns of module completions. The bulk of payments should be made on contract signing and during the progress of the contract, with final payment dependent on the achievement of module completion targets. Completions above (and below?) targets should incur adjustments calculated as a proportion of the standard prices.

6.2 Suggested questions for Stage 2

The final requirement of the project brief is to draw together the outcomes of this first stage of the project by suggesting questions which could be used in surveying the resource allocation mechanisms currently being used by VET systems in the states/territories. These questions, which are listed in Appendix 2, seek to explore the main issues canvassed by this paper - namely the differing perspectives which the various decision making levels within state/territory VET systems take on resource allocation, the types of allocation mechanism they use and why, and the organisational conditions under which these mechanisms operate.

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APPENDIX 1

ASSUMPTIONS AND CONSEQUENCES OF POLICY INSTRUMENTS

	Assumptions	Consequences
Mandates	Action required regardless of capacity; good in its own right. Action would not occur with desired frequency or consistency without rule.	Coercion required Create uniformity, reduce variation. Policy contains information necessary for compliance. Adversarial relations between initiators and targets. Minimum standards
Inducements	Valued good would not be produced with desired frequency or consistency in absence of additional money. Individuals, agencies vary in capacity to produce. Money elicits performance.	Capacity exists; money needed to mobilise it. As tolerable range of variation narrows, oversight costs increase. Most likely to work when capacity exists.
Capacity building	Knowledge, skill competence required to produce future value; or' Capacity good in its own right or instrumental to other purposes.	Capacity does not exist; investment needed to mobilise it. Tangible present benefits serve as proxies for future, intangible benefits.
System changing	Existing institutions and/or existing incentives cannot produce desired results. Changing distribution of authority changes what is produced.	Institutional factors incite action; provokes defensive response. New institutions raise new problems of mandates, inducements and capacities.

McDonnell,L and Elmore,R.F. Getting the Job Done: Alternative Policy Instruments. *Education Evaluation and Policy Analysis* 9(2) 1987, p. 141

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