

A Tertiary Education System for the 21st Century

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1. Introduction

The proposals outlined below address student-related funding elements of the tertiary education system (VET and Higher Education). They do not consider the very important element of research funding.

Throughout the paper, the “tertiary” education system is considered. This term is used to collectively represent Vocational Education and Training (VET) and Higher Education. As will be shown below, these sectors are becoming more closely related and hence the two sectors are most effectively considered together.

Noting the volume of material to be assessed as part of the Review, this paper has been kept as short as possible. The aim is to explain a proposed new conceptual structure for tertiary education funding and operation, rather than consider the fine details. At times, specific numbers or percentages are mentioned for illustrative purposes. These should be considered only as illustrative, detailed modelling is beyond the scope of this paper.

2. Changing Landscape of Tertiary Education

Over the last decade there have been a number of significant changes in the tertiary education sector, which mean that a thorough review is overdue. Some of these elements are summarised below.

2.1 Participation Rates

As shown by Young (2007)¹ (attached as Appendix A), participation rates by young Australians in both VET and Higher Education have continued to increase over the last decade. Today, more than 50% of school leavers enter tertiary education. If Australia is to be a successful knowledge economy, this must continue into the future. A consequence of greater participation rates in Higher Education is that the average Tertiary Entry Score (TER) of students must decrease. At some time, we must reach a point where the TER is so low that it is reasonable to assume that students are inadequately prepared for Higher Education study.

2.2 Access, Equity and Schooling

Young (2007) shows a clear relationship between TER and the socio-economic background of students. Wealthy students have the best schooling and opportunities, achieve high TER, and enter their university of choice. The converse is true for low socio-economic students.

2.3 Pathways

Young (2007) also shows that progression rates of Higher Education students are correlated with TER. Attrition rates of low TER students are much greater than their high TER (wealthy) colleagues. However, Young (2007) also shows that TER is not a measure of educational ability, but of educational preparedness. Low TER students

¹ Young, I.R. (2007), “Building Better Pathways to Higher Education”, AFR Higher Education Conference,
<http://www.swinburne.edu.au/chance/vc/documents/opinionpieces/BuildingBetterPathways.pdf>

who firstly enter a pathway program (usually a TAFE Diploma) perform as well as high-TER school leavers.

Based on these observations, Young (2007) proposed a model for tertiary education where low-TER students enter a pathway program before progressing to Higher Education. Placing such students directly into Higher Education sets them up for failure, wastes resources and effectively decreases the overall standard of the High Educational experience for all. The use of pathways is cost effective, maximizes educational outcomes in a mass-participation tertiary education system and provides a very effective mechanism to address social disadvantage.

Young (2007) proposes that these outcomes would be most effectively achieved by a system which funds Associate Degree programs, largely delivered within the TAFE sector.

2.4 Life-long Learning

The increasingly rapid changes in technology, economies and society mean that life-long learning is now the norm. However, we have a funding system for Higher Education which fails to recognize this development. The Higher Education Contribution Scheme (HECS) is predicated on the view that both the nation and the individual benefit from Higher Education study. This position is widely accepted. HECS is largely directed at undergraduate study. Postgraduate coursework study largely takes the form of full-fee paying programs. Whether intended or not, this implies that the benefit in postgraduate study lies completely with the individual. Although this is clearly no longer the case, it was perhaps not unreasonable, when HECS was devised in the late 1980s. At that time, a Bachelor level qualification was all that was required for many professions and even senior positions. A postgraduate qualification was seen as a clear "value add" and the individual could assess the costs and expected returns. However, this situation is changing and a postgraduate qualification is now required for many positions. Further, as older workers re-skill, they often seek postgraduate study to build on their existing education and experience. The thought of undertaking a second undergraduate qualification is generally not attractive (or feasible). Increasingly, postgraduate qualifications are not a "nice to have" for people, but a requirement to meet the changing world. The HECS/ fee-paying system seems inconsistent with these changing demands.

2.5 Supply and Demand

The present system of centrally allocated places (both number and discipline mix) has clearly shown its limitations in recent times. When there were far fewer University places than aspiring students, such issues were not apparent. As the number of places has increased the limitation of a system, which is largely independent of market demand, is becoming obvious. In recent years, while a number of universities have continued to allocate all government supported places and either turned students away or resorted to full-fee paying undergraduate places, other institutions have been unable to fill all the places that they have been allocated by the Government. Such a system may discriminate against particular groups of people trying to access the tertiary system. Currently, some students are unable to access tertiary education because of their geographical location or their economic background.

3. An Alternative Tertiary Education System

In an effort to address the issues raised above, it is proposed that a system based along the following lines is considered:

- a. Students who successfully complete secondary school are allocated a "Tertiary Education Credit" (TEC). The TEC will entitle the student to say 5 years of tertiary education.
- b. There would be two forms of the TEC (TEC1 and TEC2). The TEC1 would be allocated to students who achieved a TER above 65. Other students who successfully complete secondary school are allocated a TEC2.
- c. The TEC1 would entitle students to study within Higher Education (Bachelor level qualifications and above – including postgraduate).
- d. Universities would still set appropriate entry standards and hence could decline entry to students based on these criteria, irrespective of the fact that the student has a TEC1. Universities would be paid by the Commonwealth on presenting the TEC1. The amount paid would depend on the discipline in which the student enrolls.
- e. A separate body would determine an appropriate cost of delivery for each discipline. There are many different modes of delivery of education, each of which has a different cost. Therefore, it is meaningless for an institution to state its cost of delivery or for an assessment of the present cost of delivery in Australia. The cost of delivery will be closely related to the available funds. The variable is the quality of the delivery – more funds relate to higher quality. Therefore, the reasonable cost of delivery would be set by international comparisons. The appropriate cost of delivery would be indexed at the CPI and benchmarked from time-to-time against international norms, to take into account that educational costs may, over time, vary at a rate other than the CPI.
- f. With the reasonable cost of delivery set along with the amount the Government is prepared to pay for the TEC, the institution would still be entitled to charge the student an additional amount. This student contribution will be similar to the present HECS, with the student able to elect to take it as an income-contingent loan.
- g. If the difference between the reasonable cost of delivery and the TEC sum is called the student "HECS", then institutions would be allowed to charge above (or below) this amount (perhaps as high as 50% above). This would place a cap on the amount, but enable institutions to differentiate, based on the type of education they wish to offer. For instance, a lower cost education delivered with much online support compared to a tutorial-based delivery. The entire student HECS (standard amount plus any extra) could be taken as part of the income-contingent loan.
- h. Should institutions decide to charge above the standard HECS, they would need to allocate a proportion of additional equity places with a zero HECS. Effectively, some of the additional funds received would need to be used for equity purposes.
- i. The TEC1 could be used for either undergraduate or postgraduate education and hence both systems would be funded in the same manner. Should a student have exhausted their TEC entitlement, then they would need to pay the full cost of the education. This full amount could, however, be added to the HECS loan. Thus, the concept of different entry levels for HECS and full-fee students would disappear.

- j. It is proposed that the TEC could be redeemed at any publicly funded institution. At a private provider, the TEC would have no value (i.e. this is the definition of publicly funded).
- k. Students who had been allocated a TEC2 would have been assessed as not yet adequately prepared for higher education study. They could present the TEC2 for study in a pathway program. It is assumed that a variety of providers would offer such pathways, probably in the form of an Associate Degree. These programs would be funded in an identical manner to those for TEC1 Higher Education programs. Naturally, a student could also use a TEC1 for this form of study, if they so wished.
- l. It is possible that the TEC2 could become the basis for funding of many existing VET programs, where successful completion of secondary school is a required entry criterion.
- m. Students who failed to successfully complete secondary school (and hence did not receive a TEC), could study within an appropriate adult education system. Once they successfully complete their secondary education they would receive the appropriate TEC.
- n. Students who successfully complete such an Associate Degree program would have their remaining TEC2 credit converted to a TEC1 credit.
- o. Special provision would need to be made on the introduction of such a system to allocate an appropriate TEC to existing citizens. This would need to consider whether they had successfully completed secondary school and the access they had already been provided to Government-supported tertiary education.

4. Discussion

It is believed the model proposed above has a number of advantages:

- The TEC1 and TEC2 system provides a means to develop a pathway system for Australia. This would address the issue of adequate preparation of students for Higher Education study, enable low socio-economic background students to address their disadvantage and ensure that Higher Education study is not degraded by the need for remedial education for an increasingly large group of students.
- As the appropriate cost of delivery will be set by international comparisons and indexed, the ongoing under funding of tertiary education will be addressed.
- Institutions will be able to differentiate the type and cost of education they offer. At present, all institutions are funded in the same way and this militates against diversity.
- Institutions who charge above the standard HECS would need to allocate equity places, thus ensuring access by low socio-economic students to these institutions. The maximum amount an institution can charge a student will be capped, thus preventing any institution from exploiting students through levying extreme fees.

- For some years, Government income to institutions has been decreasing in real terms. Therefore, institutions can only remain solvent by increasing volume, particularly of fee-paying international students. This process is unsustainable, particularly as it causes major infrastructure challenges. As the proposed system would be appropriately funded and indexed, this unsustainable approach to institutional survival will not be required.
- The process of life-long-learning will be encouraged.
- As the TEC will fund both undergraduate and postgraduate study and do so at an internationally comparable rate, the total cost to the Government will increase. Government will need to decide if it wants a population appropriately educated for the future.
- The present inequitable system where wealthy students can obtain entry as fee-paying students with a TER below the HECS cut-off would disappear. All students would enter tertiary education on the same academic grounds. However, low socio-economic background students would be supported both educationally (through pathways) and financially (through institutional scholarships).

5. Issues

There are a number of issues in such a model which would need to be considered.

- This system would be market-driven without central allocation of places to institutions. Would this allow some institutions to dominate, at the expense of others? If places are properly funded, it is unlikely that prestigious institutions will want to grow, at the expense of others. Excessive growth of such institutions potentially damages their market position. Rather, they would use the flexibility in the system to charge more and seek a greater margin per student. For this reason, the amount of flexibility above the standard HECS must be sufficient to allow market differentiation (50% is suggested here). In addition, the Government could support particular institutions or campuses if it is in the national interest. This could be achieved by varying the amount paid to the institution for the TEC. Thus regional, outer urban or other institutions could charge a reduced HECS, providing them an advantage in the market.
- As a market-driven system, Government cannot directly determine the number of places in particular disciplines. The Government can, however, indirectly influence the market. For instance, if engineering, nursing or teacher education are priority areas, government could increase the TEC1 paid, up to the level of the full cost of delivery. This would mean that the HECS component paid by the student could be small or even zero. This would increase the market appeal of these disciplines.

An example of how the system may work

How the system may work is best illustrated by an example. Due to her lack of maturity, Kate underachieved at school, receiving a TER of 55. She received a TEC2 and enrolled in an Associate Degree program at a TAFE institute. This program was two years in duration and, upon completion, her remaining 3 years of entitlement was converted to a TEC1. She then enrolled in a Bachelors degree at University, receiving 18 months credit for her Associate Degree study. The Bachelors program she enrolled in had been assessed as having a standard cost of delivery of \$20,000 and the Commonwealth contribution to the University was \$15,000. The University had determined that it would charge students a HECS component of \$7,000 per year. As this is above the standard HECS of \$5,000 the University would need to offer an agreed number of zero HECS equity places. As Kate does not come from a disadvantaged family, she does not qualify for such a place. Eighteen months later Kate graduates and enters full time employment. She has a HECS debt from her Associate Degree and Degree studies and still has a TEC1 credit of 18 months. Five years later Kate decides that she needs to up-skill and enrolls in a two year Masters program. The standard cost of delivery for this program is \$22,000 but the government has identified it as a priority program and agreed to a Commonwealth contribution of \$20,000. The University has decided to charge the standard HECS of \$2,000, which goes on Kate's student loan. As Kate has only 18 month of TEC remaining, the final 6 months of her 2-year Masters will be on a full-fee paying basis (ie. one-half of \$22,000).

APPENDIX A

Young, I.R. (2007), "Building Better Pathways to Higher Education", AFR Higher Education Conference.

<http://www.swinburne.edu.au/chance/vc/documents/opinionpieces/BuildingBetterPathways.pdf>

Building Better Pathways to Higher Education

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1. Introduction

Australia, like many other countries around the world, needs to seriously consider how its tertiary (Higher Education and Vocational Education) system will effectively meet changing societal needs. As modern nations progressively become knowledge economies, the proportion of our population which progresses from secondary school to tertiary education will increase. Our universities and TAFE Institutes have, however, evolved from systems where only a small proportion of the population progressed to tertiary education. It is questionable whether simply scaling-up the existing structures is the logical way to meet such an expanded demand.

2. The Australian Tertiary Education System

Before looking at possible alternatives to the present system it is opportune to reflect on the present tertiary education system in Australia. Broadly speaking, the present system consists of Higher Education (universities) and Vocational Education (TAFE Institutes). The differences between the two are often characterised in terms of the qualifications they deliver (eg. Higher Education – Bachelor, Masters degrees etc., TAFE – Certificates, Diplomas etc.). This distinction is, however, superficial and increasingly blurred. For instance, some universities now offer diplomas and some TAFE Institutes degrees. Rather, it is more instructive to look at the policy drivers informing the two sectors and the educational goals of each.

In the case of Higher Education, the critical policy drivers are education and innovation. All universities in Australia argue the critically important place of research in their institutions as both a driver of innovation and an informer of the educational philosophy. A key attribute of a degree graduate should be the ability to independently research a new topic and to critically evaluate material. What better way to develop these attributes than being taught by an active researcher?

In the case of TAFE, the policy drivers are again education but with the addition of industry and social policy. The TAFE education is heavily influenced by the immediate needs of industry and the requirement to develop workers with the specific skills needed by employers. This process is put into action by the many training packages which exist within the TAFE/VET system. The social policy element of TAFE is also critical in meeting many requirements around remedial education and access to education. The TAFE system is built around open access to education which contrasts with the competitive system of university entry.

The systems are fundamentally different and should not be considered in a hierarchical manner. As such, the blurring of mission (universities offering diplomas and TAFEs offering degrees) devalues the important, but distinct, roles of each sector.

Understanding of these distinctions is important in the concepts outlined below.

Progressively, problems in the present structures are becoming obvious. In the short term, these problems are manifested in terms of inadequate funding of tertiary education, and Higher Education in particular. As the system has expanded rapidly, government, representing the taxpayer, has not been prepared to fund this

expansion. As such, greater burden has fallen on students through loans (HECS) and full fees. Although there is still no evidence that students are opting out of Higher Education in significant numbers, Australia has reached a point where student contributions are high by international standards.

The challenges facing Australian Higher Education are not unique. Other countries have also struggled to cope with the massive expansion of Higher Education. Britain is a clear example and, in fact, has looked to Australia for ideas. A more striking example is Germany, where the once generously state-funded system is now staggering under swelling numbers of students and under-funding. One of the aims of the much-discussed Bologna process is to get students through the Higher Education system in reasonable time, rather than the 5 or 6 years typical of the European system.

Australia's challenges are not significantly different. Our universities are on a funding treadmill. Institutions have regularly competed for newly funded Commonwealth places whilst at the same time complaining that the funding rate per student is inadequate. Put simply, the universities are hoping that they can extract a small margin from each student to enhance the net income from provision.

The negatives associated with such unsustainable growth are significant. Quality is obviously challenged and ultimately the ability to meet the expanding education and training needs of the nation will be impacted. Had it not been for the spectacularly successful full-fee paying international student market, Australian Higher Education would be in a diabolical position.

The basic model of higher education delivery in Australia has not fundamentally changed since its establishment. A system designed for an elite few in society is now being applied to a mass market. The result is an expensive and unsustainable system which is not ideally suited to the educational needs of many students. Institutions have commenced the process of investigating alternative models for Higher Education. The "Melbourne Model" has received much publicity. Although this model may have educational advantages, in fact, it is an even more elite system than the one we have at present, increasing the average educational period from 3 to 5 years. The resulting 70% increase in the cost of education hardly represents a solution to the present situation. Other models have focussed on greater vocational and industry based skills (eg. Swinburne University of Technology, Victoria University). These approaches are aimed at making education more relevant, engaging students more and enhancing employability. All are laudable educational goals, but again, if anything they represent a move to further increase the average costs.

This paper reviews the present situation and develops an argument based on both educational and economic grounds that Australia should move to a system similar to that in the United States, where potentially very capable, but less academically prepared students study Associate Degree programs within a TAFE equivalent, before articulating to university. Such a system should enhance the success rates of these students, thus providing educational advantages. In addition, the reduced average cost of delivery will result in significant savings which could be used to support a system of smaller but better funded universities. Ultimately it will provide for a more sustainable system, capable of educating a broad cross-section of the community and meeting Australia's growing tertiary education needs.

3. The Changing Australian Tertiary Education System

Modern societies increasingly require large numbers of well educated and highly skilled employees. As such, there is an increasing demand for a higher percentage of our population to obtain tertiary qualifications [both higher education (university) and vocational education (VET/TAFE)]. This trend is clearly seen, by examining the percentage of 20 year olds engaged in tertiary education, as shown in Figure 1.

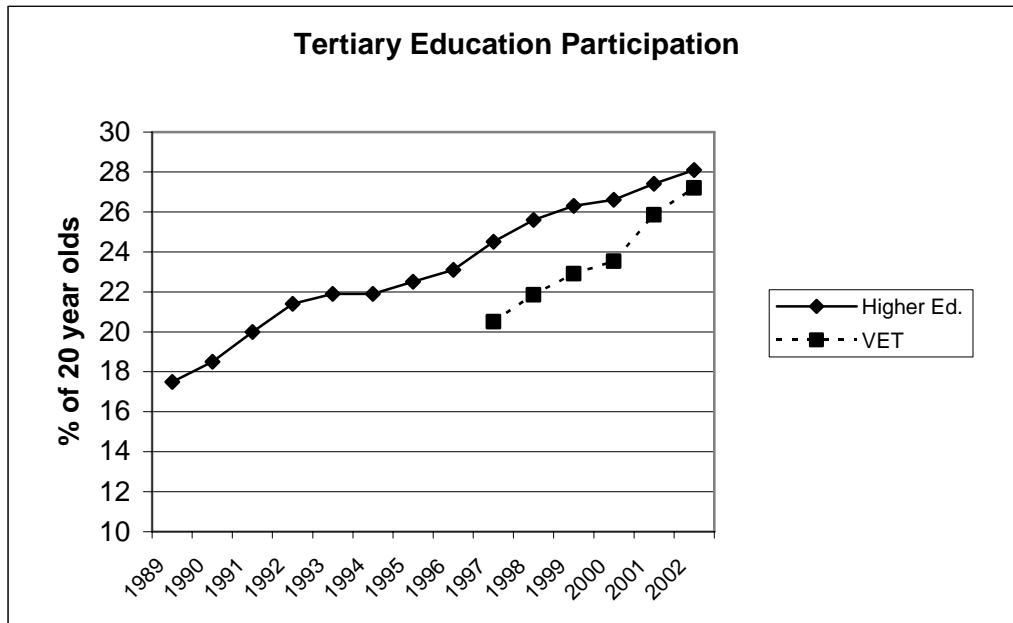


Figure 1: Percentage of 20 year olds enrolled in either Higher Education or VET. [Source: DEST Higher Education and VET participation rates].

Over a period of approximately 10 years, the percentage of school-leavers (approximated by 20 year-olds in Figure 1) entering Higher Education has increased by 10% (from 17% to 28%). Today, more than 50% of school leavers enter tertiary education (university or TAFE). The challenges for institutions, and government, to fund such an expansion are obvious. The rapid increase shown in Figure 1 shows no signs of slowing.

In addition, Australia, like most Western countries has an ageing population. This is clearly seen in Figure 2, which shows OECD predictions of population age distribution for Australia in 2015, compared to 2005. The number of 15-19 year olds will decline by 4% between 2005 and 2015. As a result, an even greater percentage of school leavers will need to progress to tertiary education in order to meet industry needs for highly educated workers. Hence, it can be expected that the percentage of school leavers seeking to enter tertiary education will continue to increase and that a larger percentage will be less well prepared for such education. It naturally follows that as the percentage of school-leaver participants increases, the system become less academically elite and must be able to cope with a much wider range of academic preparation.

A change in nature of the academic skills of commencing university students is already apparent in the data. Figure 3 shows the distribution of Tertiary Entry Ranks (TER or ENTER in Victoria) for Victoria. It is reasonable to assume that similar trends exist in other states. As the percentage of school leavers entering university increases, the TER distribution flattens. As a very high percentage of the most highly

achieving students already attend university, the expansion is largely supported by less well prepared students with lower TER.

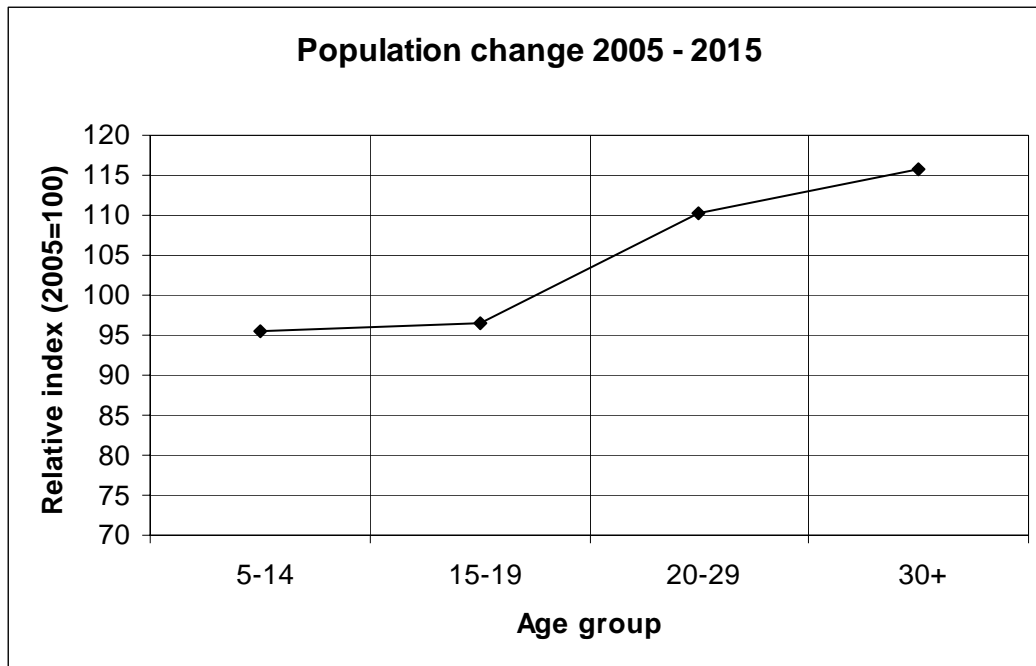


Figure 2: Demographic changes in the Australian population. The predicted age distribution of the Australian population in 2015 is shown compared to 2005. A value of 100 corresponds to no change between 2005 and 2015. [Source: OECD Education at a Glance 2006, Table A11.1].

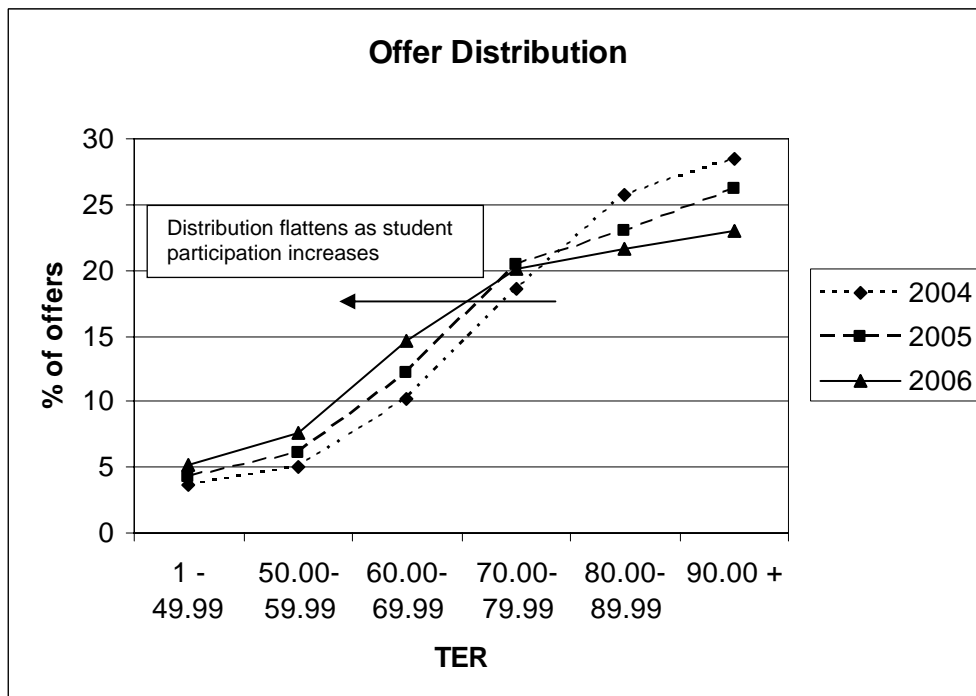


Figure 3: The changing distribution of Tertiary Entry Rank (TER) of offers made for Victorian university places for 2004, 2005 and 2006. [Source: Victorian Tertiary Admission Centre, VTAC data].

This change in academic preparation raises many questions for universities. Is TER an accurate measure of likely university success? Are we “dumbing down” the system? Should students with relatively low TER aspire to university study? Might there be better alternative for low-TER students? These are all interesting questions and as the system is expanded they must be addressed.

Figure 4 plots data for Swinburne University of Technology showing progress rates as a function of TER for school-leaver students (i.e. students who complete Year 12 and directly enter university). Clearly, there is a strong relationship between TER and the academic success of students. It should be noted that progress rate is not an ideal measure of student success. Students who elect to transfer between courses or to another university or make a decision to take a leave of absence are all counted as not having progressed. Despite these short-comings, the result in Figure 4 is clear. The data raises a number of questions. Is such a result inevitable - weaker students will naturally have higher failure rates? Can less well prepared students be assisted to improve their results?

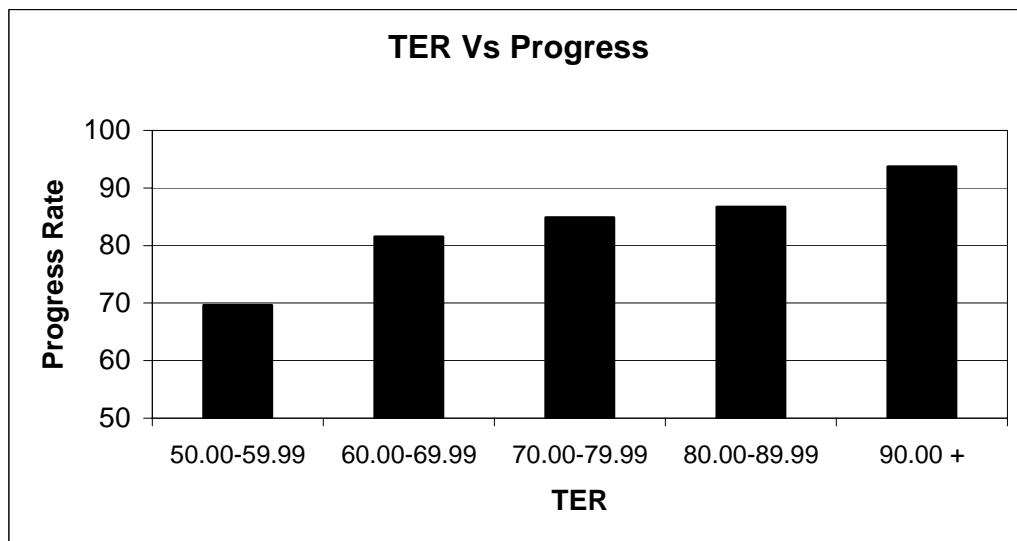


Figure 4: Progress rate of first students who entered university from Year 12 as a function of their Tertiary Entrance Rank (TER). [Source: internal Swinburne University of Technology data].

Interpretation of data such as that in Figure 4 requires an understanding of just what TER actually represents. This measure is widely used for entry to university. Is TER a measure of academic ability or is it a measure of academic preparation? Importantly, can students with relatively low TER succeed at rates higher than those shown in Figure 4?

That TER is influenced by factors other than academic ability is well known. Teese and Polesel (2003)² have shown that TER and socio-economic status are well correlated, as shown in Figure 5. This figure shows the mean entry TER for each of the universities in Victoria as a function of the mean socio-economic status (SES). A value of SES=1000 represents the population mean. Two striking features are clear in this figure. Firstly, students from wealthy backgrounds attend the best schools, have a more academically supportive environment at home, achieve high TER and

² Teese, R. and Polesel, J., 2003, “Undemocratic schooling: Equity and quality in mass secondary education in Australia”, Melb. Univ. Press, 272pp, ISBN: 0-522-85048-0.

attend the most prestigious universities. As shown in Figure 4, these same students will, in turn, perform best at university. The second feature is that mean values of SES for all institutions are above the population mean of 1000.

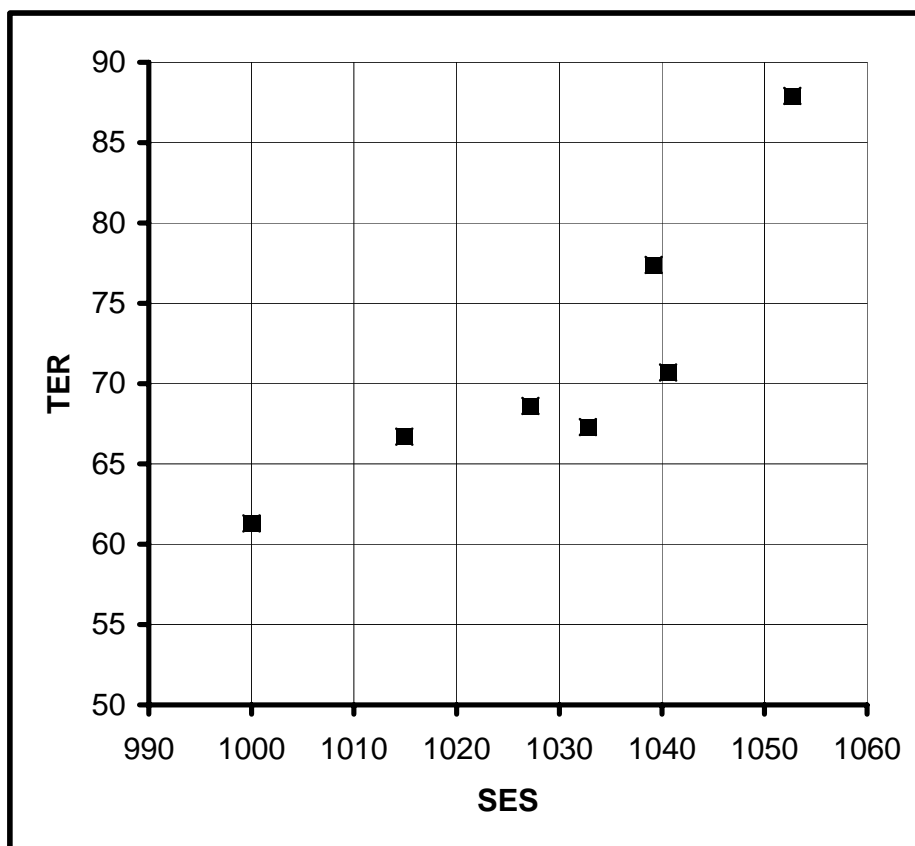


Figure 5: Mean tertiary entrance rank (TER) versus mean socio-economic status for each of Victoria's universities. [Source: Teese and Polesel (2003)¹].

It is clear from the results in Figure 5 that TER is a measure of academic preparation rather than academic potential or ability. Hence, if in the future an increasingly large percentage of school leavers, with inevitably lower mean TER, are to progress to higher education, alternative means will be necessary to ensure this group of students are not excessively disadvantaged by their backgrounds. In addition, enhancing the success rate of this group of students will be essential to ensure this human resource is not wasted and that the increasing need for a more highly educated work force can be achieved.

4. Changing pathways to Higher Education

There is a regular debate in Australia about unmet demand. This debate tends to be superficial and does not account for the changing pathways to higher education. The unmet demand debate tends to suggest that students who fail to obtain their desired place in a university have lost all hope of such an education. In reality, there is a significant and growing pathway to higher education through TAFE and other VET pathways. These pathways typically take the form of students undertaking a diploma or advanced diploma in TAFE and then articulating into a university degree with advanced standing as a result of their prior TAFE study.

The number of students who elect this pathway and ultimately enrol in a university degree is difficult to determine. University data reporting systems are presently not

designed to accurately record this information. DEST has recently introduced changes to address these deficiencies. Unofficial data collected at Swinburne University of Technology indicates that, nation-wide, perhaps 10% of higher education students utilize this pathway. A number of institutions have actively developed this pathway (eg. Swinburne, Western Sydney, Deakin) and have numbers far higher than this national average. In 2006, approximately 28% of commencing students at Swinburne articulated from TAFE.

Although the average TER of students who adopt this pathway is unknown, it is reasonable to assume that their average TER is low, most probably between 50 and 60. As noted in Figure 4, students with values of TER in this interval are likely to have low progression rates if they enrol directly in Higher Education. Data on the progression rates of students at Swinburne has been kept since 2000. Table 1 shows the average progression rates of the different cohorts of students in 2006.

Basis of Admission	Average Progression rate
Year 12	83.4
TAFE/VET	84.5
Other	79.6

Table 1: Average progression rates for different cohorts of students at Swinburne University of Technology in 2006.

The results shown in Table 1 are typical of those achieved in each year for which data has been collected (6 years). Within the statistical variability of the data sample, it can be concluded that students articulating from TAFE achieve at approximately the same level as students who entered from Year 12. As shown in Figure 4, a progression rate of 84.5% (Table 1) is typical of students with a TER in the band 80 – 90. This is a remarkable result since, as noted above, this cohort of students probably have TER values between 50 and 60. Opting to take the pathway through TAFE has resulted in achievement levels equal to students with TER values 30 point higher than this cohort.

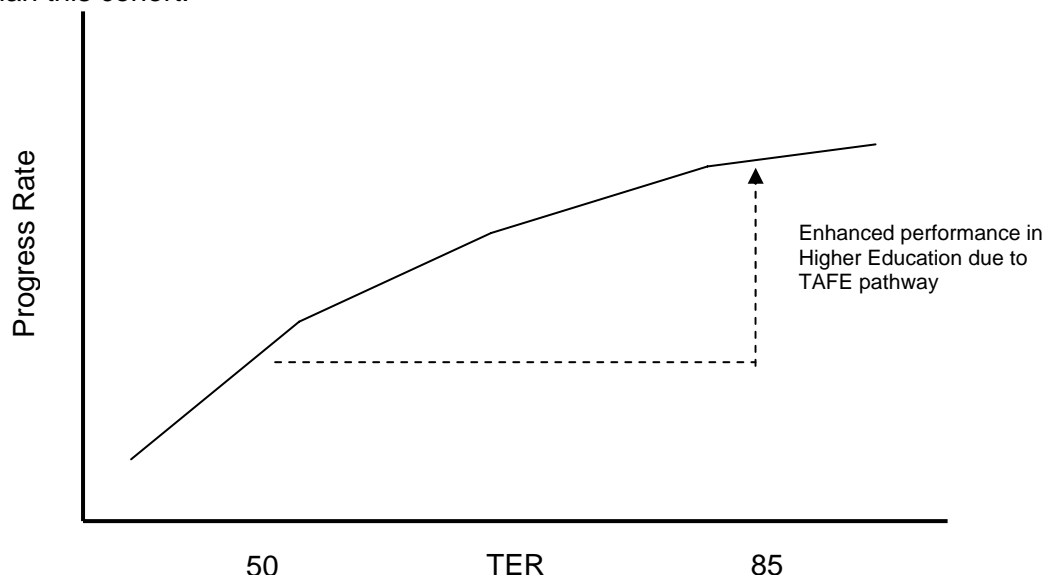


Figure 6: Diagrammatic representation of enhanced student performance brought about by the provision of a preparation pathway.

It is believed that there are a number of reasons why there is such a dramatic increase in performance for low-TER students who utilize the VET-articulation pathway. These include:

- TER is largely a measure of educational preparation, not educational ability. As such, greater preparation enhances performance.
- University, by its nature, is aimed at building independent research and learning in students. Therefore, poorly prepared students, who are not ready for such independent development, struggle.
- TAFE/VET provides greater assisted study techniques. The educational pedagogy is a natural bridge – more independent than school, but more supportive than university.
- The articulation pathway allows the students to mature. Typically, students receive a maximum of 1.5 years Higher Education credit for 2 years study in TAFE. This enables the student to mature and not to be accelerated into university study too rapidly. Although there is always pressure to provide a greater level of credit for TAFE study, anecdotal evidence suggests that such a move would disadvantage students and decrease success in university study.

5. The International Perspective

Pathway development, such as described above is a key element of the US Higher Education system. Community colleges within the US form an important part of the system, educating many students in 2-year programs who then articulate to 4-year colleges and Universities. Compared to Australia, there is a much greater level of collaboration between community colleges and universities. For instance, the American College on Education (ACE) represents the Presidents of all institutions, whether they are 2-year or 4-year in nature. ACE acts as a supportive resource and a powerful political lobby group.

The community college pathway is viewed by many US students as a desirable path to a degree. It is both less expensive and provides a better educational preparation than progressing directly to university.

Other international experiences have been less positive. The Foundation Degree introduced in the UK has not been particularly popular with students. This may simply be a transition issue, but it is also probably because it is offered by universities, alongside traditional degrees. In this setting, the Foundation Degree naturally appears as a “second best” option.

6. A Pathway Model for Australia

The data presented above provides a compelling case, based on educational outcomes, that poorly educationally prepared (low TER) students should proceed to university through a pathway, rather than enrol directly in degree programs at university. This section will present a model to achieve this outcome. The following section will provide an economic analysis to show that such a structure also has economic advantages to Australia.

It is proposed that Australia move to a system where all students with a TER (or other selection criteria) below a certain value enter a pathway program offered through TAFE rather than enrol directly in university. The details of how this would work are outlined below:

- a. A minimum TER is set for university entry (either nation-wide or university specific). Students below this limit could not enter university directly, but would proceed through a TAFE pathway.
- b. The TAFE pathway would be an Associate Degree rather than a Diploma. The Associate Degree is better equipped to act as a pathway as it is curriculum based and hence consistent with the requirements of the Degree.
- c. The Australian Qualifications Framework (AQF) indicates that the Associate Degree offers both an exit point and a fully articulated pathway into the Bachelor Degree. This is a direct translation from the US experience where the 2-year qualification articulates into the 4-year degree. It is difficult to believe that it will be possible to take students who are poorly educationally prepared, provide them an exit qualification at two years (something a degree does not do), bring them up to the same standard as better prepared school leavers and allow them to mature. After this, they would need to transfer, become adjusted to university study and complete their final year. Although this may be possible in a 4-year US degree, it seems a demanding requirement in the already compressed 3-year Australian degree. Therefore, until proven otherwise, it is believed that the Associate Degree should articulate with 1 1/2 years credit, as is presently the case with the Diploma and Advanced Diploma.
- d. The cost structures within TAFE are less than within universities (see next section). Therefore there are significant cost advantages in such a proposal.
- e. The scheme would be funded by transferring a proportion of the present government funding for each student from the university sector to TAFE. A proportion of the funding would remain with the university sector, thus resulting in a smaller but better funded university sector.
- f. The proportion of the funding transferred to TAFE would be at least equal to the present funding rates within TAFE. In addition, HECS would be extended to these Associate Degree programs in TAFE. The rate of HECS would be less than in corresponding degree programs. As a result, TAFE Institutes will also become better funded and students will have both educational and financial incentives to proceed through the pathway.

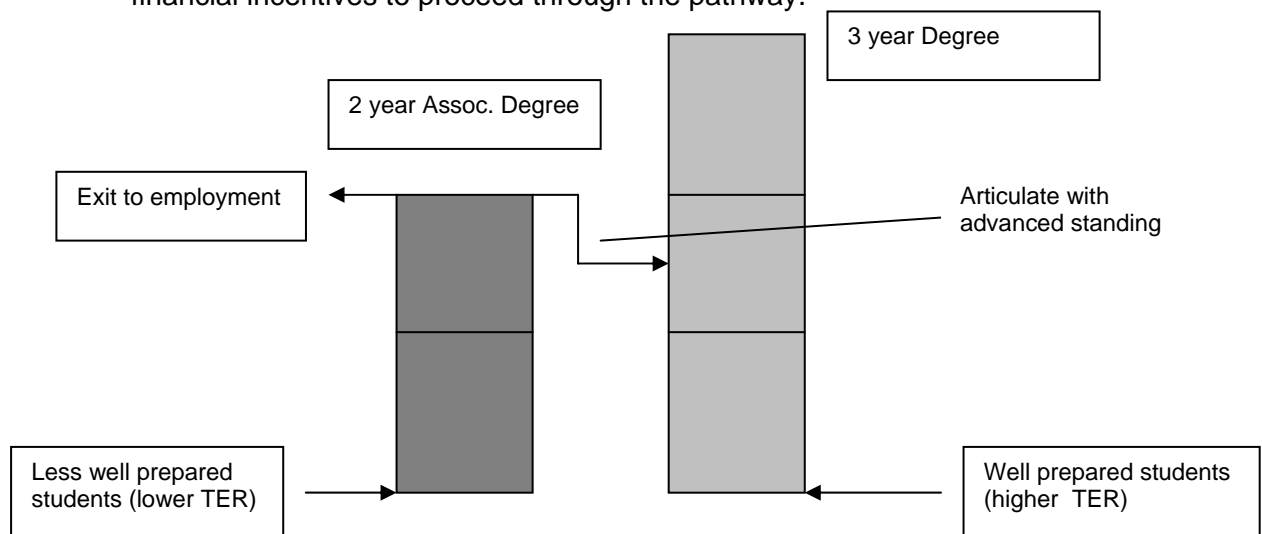


Figure 7: Diagrammatic representation of degree and employment pathways.

7. Financial Analysis

The analysis below makes a number of assumptions and is intended as an illustration of how the system might work, rather than a detailed proposal.

TAFE and Higher Education are funded for domestic students in quite distinct ways. These can be summarised as follows:

Higher Education Funding

The funding for each year of the course consists of a component provided from the Commonwealth (the Commonwealth Grant Scheme, CGS) and a component funded by the student (the Higher Education Contribution Scheme, HECS). The rates of both CGS and HECS vary by discipline. This funding must cover both instruction to the student and infrastructure.

TAFE Funding (based on Victoria)

Each hour of instruction (Student Contact Hour, SCH) is funded. This component does not include any allowance for infrastructure, which is funded separately. The SCH funding rates vary by discipline.

7.1 Indicative Cost Structures

The cost structures within TAFE are lower than in Higher Education since the levels of academic qualifications of staff are generally lower and the expectations to carry out research do not exist within TAFE. As explained earlier, such an approach is appropriate for sub-degree programs, however, a research environment is considered important for a university Degree.

Below, calculations are carried out for typical costs associated with teaching a student for one year in (a) Business and (b) Engineering. These choices give typical extremes of low and high cost disciplines.

Higher Education		TAFE	
<i>Business</i>		<i>Business</i>	
CGS	\$2,515	700SCH x (\$7.54+\$1.15) ³	
HECS	\$7,118		
Total:	\$9,633	Total:	\$6,083
<i>Engineering</i>		<i>Engineering</i>	
CGS	\$12,476	700SCH x (\$11.3+\$1.15)	
HECS	\$7,118		
Total:	\$19,594	Total:	\$8,715

Table 2: Cost of teaching in TAFE and Higher Education

As can be seen above, the cost of teaching Engineering is significantly higher than Business. In both cases, the cost advantage of TAFE is clear. Note that in the above, it is assumed that the Associate Degree (TAFE program) has 700SCH. This would equate to more than 26 hours per week over two 13 week semesters. This is significantly higher than in a Higher Education degree, but is a critical part of the

³ \$7.54 per SCH for instruction plus \$1.15 per SCH for infrastructure. The infrastructure figure is based on expenditure in Victoria in 2005.

more assisted mode of learning in TAFE, essential for developing the academic abilities of less well-prepared students.

As an example of the revenue sharing proposal core to the proposed model, it is assumed that:

- a. The present CGS component is shared between the two sectors in the ratio 35% Higher Education, 65% TAFE.
- b. That the student is charged a HECS rate in TAFE which is 75% that in Higher Education. The reduced rate takes into account that the student will complete 2 years of study in TAFE and receive 1.5 years of credit in Higher Education. Thus the reduced HECS rate ensures that the total HECS payable on the degree qualification is not changed compared to the present situation.

Higher Education		TAFE	
<i>Business</i>		<i>Business</i>	
CGS	\$880	CGS	\$1,635
		HECS	\$5,339
Total:	\$880	Total:	\$6,973
<i>Engineering</i>		<i>Engineering</i>	
CGS	\$4,367	CGS	\$8,109
		HECS	\$5,339
Total:	\$4,367	Total:	\$13,448

Table 3: A possible investment sharing arrangement for typical articulating students, allowing an enhanced public investment in both sectors.

By comparing Tables 2 and 3, it can be seen that there is a net funding increase of \$880 (Business) and \$4,367 (Engineering) per student to Higher Education. In addition, the funding to TAFE is more generous than present levels by \$850 (Business) and \$4733 (Engineering). Financially, both TAFE and Higher Education would benefit from the proposal.

Under such a scheme, it would be necessary to determine the threshold below which students should progress through the pathway Associate Degree. For illustrative purposes, a figure of 65 (TER) has been selected. Based on Figure 3, it can be estimated that approximately 19% of all offers to university in Victoria in 2006 did so with a TER below 65. If it were assumed that 19% of all admissions were also with a TER less than 65, then this would equate to approximately 80,000⁴ EFTSL of student load within Higher Education. As such, students would spend half of their total educational duration in TAFE, at any one time 40,000 EFTSL would be involved. Based on a mid-point figure of approximately \$3000 (between the Business and Engineering figures shown in Table 3), this would represent a net gain to both sectors of approximately \$120M. This effective “additional investment” would increase as the percentage of school leavers seeking university study increases.

⁴ Based on DEST data and a total of 400,000EFTSL of student load

8. Conclusions

It is clear that the future economic development of Australia will require an increasingly large proportion of the school-leaver population to progress to tertiary education and, in particular, higher education. It is also desirable that the graduates of degree programs not simply have technical knowledge but have independent research skills and the ability to critically analyse and evaluate a range of options. The development of such skills requires an educational system which fosters and enhances independent development. These attributes are presently core to degrees offered by our universities. The development of such attributes does, however, require students to be educationally well prepared. The lack of such preparation will mean that students will ultimately struggle in an “independent learner” environment.

This paper clearly demonstrates that as the number of school-leavers seeking degree-level education increases, an increasing proportion of such students will be educationally poorly prepared. As a result, a high percentage of these students will struggle in their degree studies. In order to meet the needs of Australian society, alternative means need to be found to educate many students in such an expanded Higher Education system.

The data clearly shows that less well prepared students can significantly enhance their performance by progressing to university study through a pathway such as an Associate Degree. In addition, this pathway has financial advantages, thus freeing up resources which can be invested in further developing the quality of both university and TAFE systems. The Associate Degree pathways proposed in the paper will:

- Meet the nation’s needs for an increasing percentage of degree-level graduates
- Enhance the graduation rates of all students
- Provides a cost-effective process to expand tertiary education
- Enables government to further invest in the quality of post-secondary education.