

IMPROVING SELECTION FOR TERTIARY EDUCATION PLACES IN VICTORIA

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CONTENTS

Executive summary	1
Background to the paper	4
1. The changing context: The implications for tertiary selection of the new national goal of universalising participation	6
2. Victoria's present tertiary selection processes	10
3. The effectiveness and limitations of current processes	15
4. Recommendations for enhanced tertiary selection processes	24
5. A hypothetical scenario: The tertiary sector in 2015	29
Appendix: International perspectives	31
References	34

EXECUTIVE SUMMARY

This report argues that urgent consideration should be given to the fairness and suitability of tertiary selection practices in Victoria. The State government should, as a high priority, take a leadership role in establishing a process for consultation with all relevant stakeholders.

The context for this recommendation is the major transformation of the tertiary sector that will take place as a result of the federal government's commit to expand participation and improve equity in line with the recommendations of the Review of Australian Higher Education (DEEWR 2008). The Review's policy recommendations seek to create the conditions for 'universal' participation in higher education. Achieving this goal will require new approaches towards student recruitment and student selection, and new tertiary selection criteria.

The new federal policy framework has created a window of opportunity in which to reach consensus within the Victorian community on new approaches to tertiary selection. Victoria needs to develop tertiary selection practices based on recognition that:

- a larger, broader, more diverse group of people than ever before will undertake tertiary education at some time during their lives;
- social imbalances in educational participation and outcomes must be addressed, and new federal targets will provide much impetus for improvement in this area;
- tertiary institutions will diversify and develop more highly differentiated missions and courses;
- new partnerships between and among secondary and tertiary institutions will emerge; and
- the pathways into and within tertiary education will grow and diversify.

Against this backdrop, this paper provides a critical analysis of Victoria's present tertiary selection processes. In particular, the paper examines the role, influence and appropriateness of the Equivalent National Tertiary Education Rank (ENTER, to be replaced in 2009 by the Australian Tertiary Admission Rank, ATAR), which is presently derived from the assessment conducted as part of the VCE. The paper also explores the possible benefits and implications of alternative approaches to selection. A preliminary outline of a model for tertiary selection suited to the objective of expanding participation and improving equity is proposed.

School achievement, as measured by ENTER, is not the only criterion for tertiary selection in Victoria, but it is clearly the dominant one. While it is difficult to categorise and to quantify the nature and extent of the use of alternative criteria, VTAC estimates 75 per cent of offers are based predominantly on ENTER. There are indications of an increase in the use of various alternative criteria, including aptitude tests such as Special Tertiary Admissions Test (STAT) and the Undergraduate Medicine and Health Sciences Admission Test (UMAT), however the study was not in a position to confirm any trends empirically. Criteria other than ENTER are often marginal rather than the mainstream and are used in conjunction with ENTER rather than instead of it; their use is less prominent in the courses for which there is highest demand, with exceptions such as the use of UMAT in Medicine. Overall, the transparency associated with the use of alternative criteria is varied.

Victoria's centrally coordinated tertiary application process administered by VTAC has numerous advantages, including the preservation of institutional autonomy over selection decisions. ENTER has the advantage of being relatively transparent and has face validity as an objective and fair measure of school achievement, and thus preparedness for university. Some of these benefits are somewhat illusory, however, and ENTER is attributed a precision that is not deserved. There are further problems with ENTER that have been identified by this study, as well as by previous analyses. Among them:

- ENTER ranks are highly correlated with socioeconomic status, thus their use in tertiary selection results in significant socioeconomic imbalances in tertiary education participation;
- ENTER is not wholly successful in predicting university performance though for high ENTER ranks its predictive capacity is strong;
- ENTER does not measure aptitude or motivation for particular fields of study or careers;
- The computation of ENTER from VCE assessment influences how schools and students approach teaching, learning and assessment, and while this partly establishes the conditions for academic aspiration it may also create narrowly instrumental approaches and place undue emphasis on examinations as a form of assessment;
- the use of ENTER tightly compresses the timeline for decision-making for both school-leavers and institutions and prevails against more considered matching of individuals to programs; and
- selection based primarily on ENTER may encourage competitive rather than informed course/institution choice behaviours.

The present selection practices based predominantly on school achievement perpetuate and extend the social inequalities that develop in schooling. To advance selection practices, selection criteria must be diversified and new criteria legitimised alongside school achievement. The means must be found to introduce, legitimise and integrate a number of selection criteria, while recognising that different criteria will have differing degrees of relevance and significance across the institutional/course spectrum. Inevitably, a more sophisticated and flexible statewide selection model will be required if a coordinated process of application, selection and offers is to be retained.

A new model for tertiary selection processes for Victoria would have the following broad characteristics:

- centralised coordination of applications and data by VTAC would continue and institutional autonomy over selection decisions would be preserved;
- less emphasis would be placed on school achievement as a selection criterion across the tertiary sector as a whole, though it would remain an important consideration for particular courses and institutions;
- new selection criteria in addition to ENTER/ATAR would be developed within a common statewide framework that establishes protocols for their use.
- a statewide aptitude test would be introduced to establish an alternative quantitative selection criterion to ENTER/ATAR;
- a single composite index or rank would not be calculated by VTAC from the available quantitative criteria;
- admissions testing on an individual institutional basis would be avoided; and
- institutions would be explicit regarding the ways in which, and the extent to which, various criteria are factored into selection decisions for particular courses.

In adopting such a model, Victoria would be moving closer to the practice in many nations of basing admission decisions on a wider range of information.

Historically it has proven difficult to make major changes in the character of selection practices due to the divergent perspectives of stakeholders — there is no central point of ‘ownership’ or regulation of tertiary application, admissions and selection practices. Intensive consultation and technical development would be needed before any changes to current processes could be considered. Such consultation should be treated as a high priority, for it is in the community’s interest to maintain coordinated, transparent and fair selection processes as participation rates grow within a diverse and competitive tertiary sector.

Finally, it can be concluded from the analysis presented in this paper that changes in selection criteria will be unlikely — in themselves — to compensate fully for educational and social

disadvantage. First, selection criteria and processes clearly are not a corrective for the underlying problem of under-achievement in schooling. Second, most, if not all, ‘ability-oriented’ selection criteria appear to introduce some degree of social filtering. Objective criteria of ‘ability’ or ‘preparedness’, regardless of whether these are based on academic achievement, aptitude testing, admissions testing, interviews or portfolios, are influenced by the capacity of people from higher and medium socioeconomic status backgrounds to optimise their opportunities through their greater educational, cultural and financial resources. Thus there is likely to be some filtering out of low SES people whenever seemingly objective ‘ability’ criteria are used. The implication of this conclusion is that compensatory processes in student recruitment and selection will always be necessary to reduce social inequalities. Tertiary institutions already have a range of ways of doing this, including through programs that recognise, for example, sustained educational disadvantage or the possible adverse effects of rurality. Students admitted through such programs have rates of retention and success that are broadly comparable to those of other students, or in some cases only marginally lower — retention and success are not strongly correlated with socioeconomic status for the cohorts enrolled through present tertiary admissions processes. There is scope to diversify and expand such programs while closely monitoring students’ transition to tertiary education and their patterns of academic achievement as a wider range of people is enrolled.

BACKGROUND TO THE PAPER

Tertiary selection processes are the source of disquiet and controversy around the world. This is no less true of Australia, where the fairness and appropriateness of tertiary selection processes and criteria generate complex questions for policy and practice. This paper provides a new, critical analysis of Victoria's present tertiary selection processes and selection criteria, and explores the benefits and implications of possible alternatives. The paper examines in detail the role and influence of the Equivalent National Tertiary Education Rank (ENTER) and its suitability as the principal selection criterion.

Australia's approaches to tertiary selection are now being placed under particularly close scrutiny. The new attention to selection is the result of federal policies to expand and widen participation following the Review of Australian Higher Education (Bradley et. al. 2008). The Review's agenda for social inclusion and growth in participation in tertiary education will require a serious examination of the values and assumptions that presently underpin tertiary selection and recruitment.

Federal policies to create a stronger tertiary system are closely aligned with Victoria's own policy directions. The Joint Policy Unit on Youth Transitions is responsible for the development of a new policy framework for youth transitions for young people aged 15 to 24 years, with the aim of increasing the proportion of young people completing Year 12 or its vocational equivalent, continuing on to higher levels of education and training, and moving successfully into careers. The unit was created by the Secretaries of the Department of Innovation, Industry and Regional Development (DIIRD) and the Department of Education and Early Childhood Development (DEECD). It was established in September 2008 and will operate until the end of 2009.

The study and the questions examined

The Centre for the Study of Higher Education (CSHE) was commissioned to prepare the present paper by the Joint Policy Unit on Youth Transitions in March 2009¹. The project team drew on existing reports and analyses in reaching the conclusions and suggestions offered in the paper. Informal consultations were held with a number of people with expertise in assessment, selection processes and the transition to tertiary education. These consultations were helpful in shaping our thinking but the authors alone are responsible for the conclusions and suggestions presented in the paper.

The study has considered questions in two broad areas in relation to tertiary selection in Victoria:

- *What are the effects of ENTER, and tertiary selection practices more broadly, on senior schooling? Does the derivation of ENTER from VCE study scores have negative effects on the educational effectiveness of schools? Does ENTER have undue influence on student decision-making? Does the derivation of ENTER from VCE study scores have any positive influences on schooling?*
- *How suitable are the criteria presently in use to determine eligibility and to select for tertiary education? Is the emphasis given to school achievement, via ENTER, appropriate? How well does ENTER predict the likelihood of tertiary retention, completion and success? What are the equity and social inclusion implications of*

¹ The authors acknowledge the initiative of George McLean, Director of the Joint Policy Unit on Youth Transitions, in commissioning this study and thank him and his colleague Sally-Anne Melke for their contribution to the project team's deliberations.

present selection practices? Are pathways other than the linear school-to-university transition appropriately recognised in selection practices?

This paper provides analyses of the questions posed above. It was prepared from existing information, including journal articles, reports and websites. No new data were collected. Where conclusions are based on anecdotal rather than systematic empirical evidence this is noted.

Tertiary selection practices have been the subject of a number of excellent analyses in the past². The present paper reaches broadly comparable conclusions to those of previous studies in relation to the limitations of ENTER and the challenges associated with introducing alternatives. The contribution of this paper is to outline a possible new model suited to the objectives of widening participation and improving social inclusion in tertiary education. The paper is not a technical report, however, and intensive consultation and technical development would be needed before any changes to current processes could be considered.

² The issues around selection have remained remarkably similar over time. Two previous analyses remain highly relevant to the present study: the Commonwealth Department of Education (CDE) produced an insightful discussion paper in 1986, *Selection for Higher Education*, (focussed on the principles and purposes underlying selection procedures and exploring a variety of possible options; and a 1997 report commissioned by the Higher Education Council, *Perspectives on Selection Methods for Entry into Higher Education in Australia* by Pascoe, McClelland & McGaw, and its companion piece *International Perspectives on Selection Methods of Entry into Higher Education*, which sought to evaluate the extent to which admissions ranks were appropriate in the context of rapid change within the higher education sector.

1. **The changing context: The implications for tertiary selection of the new national goal of universalising participation**

Tertiary selection and the issues around ENTER

Eligibility and selection for tertiary education in Victoria are largely determined on the basis of measures of school achievement: the successful completion of the Victorian Certificate of Education (VCE) and the ranked performance as signified by ENTER. Criteria other than ENTER are also used, often for non-school-leaver tertiary applicants, though not exclusively so, and these include aptitude testing, interviews and portfolios. Tertiary institutions also take into consideration long-term and short-term educational disadvantage that may have affected school achievement.

Despite the use of alternative criteria for some institutions and courses, ENTER remains the centrepiece of tertiary selection. The predominance of ENTER is greatest in the courses for which there is the most demand and for which objective and fair sorting on the basis of academic merit and academic preparedness, or at least the appearance of objectivity and fairness, is a high priority.

ENTER is regularly the subject of criticism. ENTER is profoundly influential, not only due to its central role in tertiary selection decisions but also because it has come to represent a de facto 'VCE score'. ENTER is the community's *lingua franca* for communicating the achievement of individuals in senior schooling, and, to some extent, the performance of teachers and schools as well. Unfortunately, the precise meaning of ENTER as a rank is probably not well understood. It would be unsurprising, for example, if many members of the community misinterpret ENTER to be a percentage score and thus believe an ENTER of 50 to be a bare pass mark. (This problem could be readily dealt with by calculating ENTER ranks on a 50—99.95 scale rather than the present 0-99.95 scale. This change would not alter the ranking at all and would have the advantage that all students awarded the VCE receive an ENTER rank of 50 or above)

Despite the significance attached to ENTER and the attention it draws, in reality it is not a grade or a rank that is officially conferred as part of the process of completion of the VCE. ENTER is computed for tertiary selection purposes from the subject scores awarded to students during their VCE studies. ENTER is calculated from the assessment and scoring model formulated for the VCE, which was designed to 'stand alone'. However, while the ENTER computation does not in itself determine or prescribe the format of assessment tasks in the VCE, the goal of gaining entry to tertiary courses and achieving a desired ENTER preoccupies students as they select VCE subjects and undertake assessment tasks and examinations in the final year of schooling.

Clearly ENTER has pervasive and possibly undesirable effects. ENTER ranks and senior secondary school achievement are tightly interlocked in the public thinking, despite the clear, if somewhat technical, line of separation that exists between VCE assessment and grading practices, for which the Victorian Curriculum and Assessment Authority (VCAA) is responsible, and the computation of a school achievement rank to aid tertiary selection, undertaken by the Victorian Tertiary Admissions Centre (VTAC).

New conceptions of tertiary education: The Bradley Review

The recommendations of the 2008 Review of Australian Higher Education (Bradley et. al. 2008) for expanding higher education participation and social inclusion, endorsed by the federal government in its 2009 budget, are likely to significantly alter the character of the Australian higher education sector over the next decade. The Bradley review recommendations have established ambitious targets for the expansion of participation and equity in higher education within the framework of a more demand-driven sector. Three of

the recommendations of the Bradley review are of particular significance for tertiary selection practices:

Recommendation 2

That the Australian Government set a national target of at least 40 per cent of 25- to 34-year-olds having attained a qualification at bachelor level or above by 2020.

Recommendation 4

That the Australian Government set a national target that, by 2020, 20 per cent of higher education enrolments at undergraduate level are people from low socio-economic status backgrounds.

Recommendation 31

That the Australian Government increase the funding for the access and participation of under-represented groups of students to a level equivalent to 4 per cent of the total grants for teaching. This would be allocated through a new program for outreach activities and a loading paid to institutions enrolling students from low socio-economic backgrounds. Funding for the Disability Support Program would be increased to \$20 million per year.

Recommendations 2 and 4 have been adopted by the government although the timeline for the 40 per cent bachelors degree completion target was extended to 2025. Recommendation 31 has also been supported and the four per cent equity funding will be phased in during the 2010-2012 period.

The policy settings that have been established lay the foundation for a future in which nearly all Australian citizens will participate in tertiary education of some kind and possibly half of each age cohort will undertake higher education. For the higher education sector, the expansion targets signal a planned incremental transition towards what has been described as 'universal' participation.

At the time of writing it is difficult to forecast the ways in which new federal policy settings, which include mission-based compacts and student entitlements alongside the expansion and equity targets will affect both demand-side and supply-side factors. It is unclear, for example, how new patterns of demand and supply might emerge within fields of study. Nevertheless, it is apparent that achieving the national targets for expansion and equity will require significant reconsideration of the ways universities engage with communities and how they recruit and select students. The achievement of the Bradley targets will involve developing a more diverse tertiary sector, new conceptions of the purposes of higher education, new curricula, expanded pathways into and within higher education, and new relationships between higher education and vocational education and training.

The challenge of universalising participation

In a post-Bradley tertiary education sector there will be major questions around the relationship between selection practices and merit, eligibility and equity. Tertiary selection worldwide is bedevilled by the dilemmas associated with these concepts. In certain circumstances the rights and opportunities for individuals are weighed up against the broader goals of social inclusion and community development. 'Merit' can therefore mean many things.

Universal participation requires radically new conceptions of merit and preparedness. In a universal tertiary system the majority of citizens should enjoy the right to undertake tertiary education and have social obligations to do so. The notions from the elite and mass phases of higher education that only particular individuals ought to go university and that only

particular individuals will generate personal and community benefits from higher education have less salience. In such a context the concept of merit for admission has less meaning across the sector as a whole, just as the concept of merit for participation in post-compulsory schooling has lost most of its meaning. Paradoxically, though, for the courses and institutions in which enrolment is most prized, and for which there is the highest demand, the concept of merit and how it is defined and measured may develop even greater prominence.

Universal participation requires more ‘open’ entry to tertiary education than is presently the case. Problematically, however, the concept of ‘openness’ is unlikely to apply equally, and even to be desirable, across all institutions and courses in a larger and more diverse tertiary sector. The effects of moving towards a universal higher education system will be experienced differently across institutions.

Victoria’s tertiary institutions already face substantially different challenges in student recruitment and selection. These are unlikely to reduce in the future. The universities with courses for which there is very high demand have the challenge of finding ways to select cohorts from large numbers of applicants who have demonstrated preparedness and who would be likely to be successful and to benefit from participation — in effect, to fairly reject applicants whose applications have merit. For courses for which the demand is lower and perhaps fluctuating, the emphasis shifts from selection to recruitment and the admissions process focusses more on matching the interests and abilities of individuals to particular programs and establishing that applicants’ academic backgrounds offer reasonable chances of success. There are also likely to be highly ‘open’ institutions that undertake to enrol students regardless of their backgrounds and prior educational attainment.

Notionally, institutions and courses will fall along a continuum as follows:

‘Selector’ institution/courses	Here there is high demand and entry is competitive, such as in some high-status professional fields. Large numbers of applicants would be likely to succeed if admitted, so the main challenge is to justify, objectively, the rejection of certain applicants. Quantitative selection criteria are desirable for transparency purposes though they mask underlying subjectivity. Fair rationing is the goal.
‘Matcher’ institutions/courses	Intensive effort is devoted to assessing the aptitude of individual students for particular fields of study. Prior educational attainment may also be considered, however the main concern is the suitability of prospective students for particular fields and future careers in those fields. Discriminating recruitment is the goal, recruitment that is mindful of the likelihood of academic success and career effectiveness. Selection of this kind is costly.
‘Open’ entry institutions/courses	Little attention, if any, is paid to prior educational attainment — though motivational factors may be considered — and individuals are supported in commencing tertiary tuition at whatever point is appropriate for them.

A tertiary education system moving towards universal participation will need selection practices that serve a broader spectrum of students and more diverse institutional educational missions. Selection practices will on the one hand need to serve high-achieving secondary school students who are academically equipped to commence advanced studies immediately. At the same time, they will need to serve potential tertiary students who have low levels of preparedness, at least in conventional academic terms: students with incomplete schooling or low levels of achievement in schooling, some of whom may be mature-aged and returning to study with considerable life and work experiences, and some who may require preparatory studies to equip them for tertiary studies at award level.

Until now, the needs of 'selector' institutions/courses have largely prescribed the selection processes and criteria. The emphasis will shift to a 'recruitment' paradigm as the sector transforms incrementally. This process needs to be managed with care.

The challenge for the Victoria tertiary sector is to plan and reach consensus on the adjustments needed to tertiary selection/recruitment processes and criteria in order to maintain the benefits for the community of a centrally coordinated process of application and to avoid a situation in which prospective students are required to make multiple applications directly to institutions. This will require agreement on processes and timing points and some commonality of criteria, as at present, but within a framework that is more flexible in accommodating differing institutional requirements. This will not be easily achieved. As the 'ownership' of selection processes is diffuse, extensive consultation will be required and this should begin as soon as possible.

2. Victoria's present tertiary selection processes

The Victorian Tertiary Admissions Centre (VTAC) is the central body that administers the application and offer process for places in Victorian tertiary courses in universities, TAFE colleges and independent tertiary colleges. Other states have comparable bodies. VTAC was established as a result of an agreement to centralise tertiary application procedures and is funded by the participating tertiary institutions and the processing fees paid by applicants. VTAC handles most applications for tertiary places though applications for some courses are made directly to institutions.

VTAC is not a selection body and it does not determine the selection criteria used by institutions. All selection decisions are made by the institutions. The role of VTAC is to calculate ENTER, to receive and process applications, and to forward application information and supporting documentation to the course selection officers at institutions.

Eligibility for a place in Victorian universities is determined at three levels: general tertiary entrance processes, requirements set by institutions, and specific course requirements. About 75 per cent of offers are based predominantly on ENTER according to VTAC.

During the 1990s the states and territories moved towards *age cohort ranking* of school leavers for tertiary selection purposes. Age cohort ranking ranks students across an entire age group, including those who are no longer in education. Previously, states had ranked school leavers for tertiary entrance purposes among the eligible cohort only, making cross-year and interstate comparisons of candidates difficult due to changes in school retention rates (New South Wales Vice-Chancellors Conference Technical Committee on Scaling 1998). All states except Queensland currently use a common ranking system for school-leaver university admissions. In NSW and the ACT this is the Universities Admissions Index (UAI); in South Australia, the Northern Territory and Tasmania the Tertiary Entrance Rank (TER) and in Victoria the ENTER³. Queensland uses an 'Overall Position' rank. In June 2009 the

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NSW and the ACT New South Wales and the Australian Capital Territory use the Universities Admissions Index (UAI) to select students for higher education. The UAI is calculated from students' HSC marks in a similar manner to the ENTER in Victoria.

South Australia, the Northern Territory and Tasmania The South Australian Tertiary Admissions Centre oversees the selection of students for South Australian universities and the Charles Darwin University in the Northern Territory, using the Tertiary Entrance Rank (TER) which is calculated from students' scores in the South Australian Certificate of Education (SACE) and the Northern Territory Certificate of Education (NTCE) (SATAC 2009). The University of Tasmania also uses the TER, which it calculates from the Tasmanian Certificate of Education (TCE) (UTas 2009).

Western Australia In Western Australia the Tertiary Entrance Rank (TER) is derived by the Tertiary Institutions Service Centre (TISC) from a student's Tertiary Entrance Aggregate, TEA, which replaced the Tertiary Entrance Score in 2008.

Queensland Queensland differs from the other States and Territories and does not use a TER. In Queensland, the Queensland Tertiary Admissions Centre (QTAC) calculates students' Overall Position (OP), which is a rank-order position relative to other candidates of one to twenty-five ($OP_1 - OP_{25}$) with the twenty-fifth position the lowest (QSA 2004). The OP is derived from a student's Subject Achievement Indicators (SAIs) which are in turn only awarded to students who have studied an appropriate number of Queensland Studies Authority approved subjects at Year 12 level to be eligible for an OP. Like subject scores contributing to TERs, OPs are scaled. Although OPs are ranked from 1 – 25, and TERs are ranked 99.95 – 30, direct conversion is possible between the two: for example $OP_1 = TER\ 99.95$; $OP_{16} = TER\ 65.00$, etc (TISC 2009).

Australian Conference of Tertiary Admissions Centres decided to adopt a common name, Australian Tertiary Admission Rank (ATAR), for all states except Queensland.

ENTER was introduced in Victoria along with the Victorian Certificate of Education (VCE) in 1993, replacing the Tertiary Entrance Rank (TER) that had succeeded the 'Anderson score'. The VCE was a response to higher school retention rates in Victoria, for during the decade to 1992 the retention rates had increased from 28 to 82 per cent (Northfield 1992). The VCE replaced the Higher School Certificate (HSC), Tertiary Orientation Programme (TOP) and Technical Year 12 (T12) with a single certificate, together with a new focus on varied assessment tasks and learning styles suited to a more diverse cohort of students.

The calculation of ENTER

ENTER, like the Anderson score and the TER before it, is calculated from senior secondary assessment and grading practices. As noted earlier, ENTER does not in itself prescribe senior secondary assessment practices, though the nature of the ENTER computation may have quite significant effects on subject choices and approaches to study.

Assessment in the former HSC was based solely on Year 12 statewide examinations. At the time, the Anderson score computed from this assessment was primarily a measure for determining university entry. In an effort to diversify assessment practices, the VCE was designed to incorporate school-based assessment tasks alongside statewide examinations. Correspondingly, the emphasis in the use of the TER, and later the ENTER, shifted towards facilitating entrance to a broader range of post-school pathways, although entry to higher education remained prominent.

ENTER ranks all students on the basis of the aggregate of their scaled score for English or ESL, the results obtained in their next three best subjects, and 10 per cent of their score for fifth and sixth subjects. Students receive their ENTER in the form of a number between 0 and 99.95. This allows easy comparison between all students around Australia who complete their secondary school studies in any given year. Students completing the International Baccalaureate (IB) are assigned a notional ENTER based on weightings and in accordance with state conversion tables.

Scaling is an important step in the ENTER calculation. With a view to the eventual aggregation of subject scores, all VCE Study Scores⁴ are scaled to become ENTER Subject Scores in a process designed to compensate for the differing abilities of cohorts taking particular subjects. VTAC encourages students to select the subjects they enjoy and believe they are strongest in, stressing that choosing subjects simply because they are adjusted upwards is unlikely to increase one's ENTER and could in fact be detrimental (VTAC 2008). For the three mathematics subjects offered (Specialist Mathematics, Mathematical Methods and Further Mathematics), students' results are compared against those of the other mathematics subjects. Scores for Languages Other Than English are raised as a result of government policy to encourage their study.

For each subject, scaling compares students' raw scores with the marks that all other students enrolled in the subject obtained in their other units, taking the mean of the other subjects as the scaled mean for the subject in question. On this basis some scores will be adjusted upwards or downwards to reflect their relative difficulty⁵.

⁴ VCE Study Scores are not scores on objective criteria but are themselves ranks.

⁵ VTAC's *ABC of Scaling* explains the process as follows: "For example, in Economics in 2007 the average VCE Study Score was 30, but the students averaged 32 for all their studies. This shows that the students who did Economics in 2007 were of above average strength in their other studies. Therefore

The General Achievement Test (GAT)

The General Achievement Test (GAT), conducted by the Victorian Curriculum and Assessment Authority, is sat by all VCE and IB students although achievement in the GAT is not part of VCE assessment. GAT assesses skills in three broad areas (written communication; mathematics, science and technology; and humanities, the arts and social sciences) and is used by the VCAA to assist in the statistical moderation of school-based assessment, for checking examination marking, and to generate Derived Examination Scores if a student is ill or otherwise disadvantaged in VCE examinations.

La Trobe University has begun using GAT scores for the selection of applicants with middle-band ENTERs. From 2009, La Trobe is encouraging students to authorise VTAC to obtain their GAT score from the VCAA to allow for the possibility of re-ranking upwards and an improved chance of an offer.

Criteria other than ENTER and adjustments for equity

While ENTER is the predominant tertiary selection tool, there is widespread use of other criteria. It is difficult to categorise and to quantify the nature and extent of the use of alternative criteria. Admissions decisions for some courses may take into account interviews, portfolios, scores in selected subjects, letters of recommendation, pre-requisite subjects or auditions. Additional testing for entry into some courses is arranged at a national level by the Australian Council for Educational Research (ACER). The Special Tertiary Admissions Test (STAT), comprising Multiple Choice and Written English components, is widely utilised by some institutions for a number of specialist courses and for mature-age students without a recent Year 12 certificate. ACER also administers the Undergraduate Medicine and Health Sciences Admission Test (UMAT) for those students wishing to study medicine – the Victorian institutions of Monash University (for entry into medicine, pharmacy, pharmacy/commerce, and physiotherapy), the University of Melbourne (oral health), and La Trobe (dentistry and oral health) use this test to determine admissions. The DULSAT (Deakin University Law School Admissions Test) is also administered by ACER and used to determine offers to study law at Deakin.

VTAC uses the umbrella program Special Entry Access Scheme (SEAS) for applicants who wish to seek consideration of disadvantage. Up to now, two distinctly different forms of disadvantage have been catered for under SEAS. First, students affected by long-term disadvantage can apply under the categories of mature age consideration, non-English speaking background, recognition as an Indigenous Australian, difficult family circumstances, disadvantaged socio-economic background, applicants from rural or isolated areas, under-represented schools, women in non-traditional courses, personal disability or long-term medical condition, and refugee status. Second, students who have been affected by adverse circumstances of some kind during senior schooling can also apply for special consideration, the categories being health of a family member, personal health or trauma, death of a close family member or friend, divorce or separation of parents, adverse living conditions, excessive family responsibility, natural disaster or refugee status. Institutions are able to choose which categories they wish to consider. The ENTERs of students receiving recognition under SEAS are not adjusted by VTAC, rather SEAS “enables course selection officers to recognise that your results may have been affected by educational disadvantage, and to assess and take into account the effect of that disadvantage”(VTAC’s SEAS publication). As SEAS information is handled at institutional level VTAC does provide detailed information on its use. The ways in which, and the extent to which, SEAS information is taken into account in selection decisions vary across institutions and courses and it is not possible to generalise in this paper on the extent to which SEAS compensates for

the scaling process adjusted the Study Scores upwards so that the average ENTER Subject Score for Economics was set at 32.”

disadvantage, nor to quantify its effects on patterns of enrolment. The compensatory processes and effects of SEAS are not transparent, largely as a result of their extensive devolution to institutions and faculties.

Alongside SEAS, universities run many additional programs aimed at increasing equity and diversity, many of which are focused not only at the point of VTAC application but also on aspiration building and alternative pathways. Below are some examples, far from comprehensive, of the many programs in place. These are provided partly to illustrate their diversity and partly to illustrate how they operate in and around, or at the margins of the ENTER criteria.

Charles Sturt and Victoria Universities are among those with programs focussed on Indigenous students – Charles Sturt has the alternative Koori Admissions Program run by the university’s Indigenous Support Unit to encourage Aboriginal and Torres Strait Islander people to attend university. Victoria University’s Moondani Balluk Indigenous Academic Unit provides academic support services and works to encourage the enrolment of Indigenous students. La Trobe and RMIT are among the institutions with close engagements with schools; with School Access La Trobe (SALT) and the Schools Network Access Program (SNAP) respectively. SALT considers students from schools in the La Trobe campus region where either the average rate of university enrolment for Year 12 graduates over the past two years has been 50 per cent or below, or where, according to postcode data, the school is in a low SES area. Each course is allocated a certain number of SALT places for students who meet minimum VCE requirements. The Rural and Regional Student Access Scheme (RRSAS) aims to attract students from rural and regional schools to the La Trobe’s regional campuses by allowing those students in the Middle Band from eligible schools three bonus ENTER points. RMIT’s SNAP recognises “that a student’s ENTER reflects a degree of educational and socio-economic privilege, and for some students this can result in an ENTER that does not reflect their ability and capacity for future academic success,” (Schools Network Access Program for Prospective Students) and is open to students from the 40 designated SNAP schools. Application involves the submission of a statement and a recommendation from a teacher.

Monash University and the University of Ballarat both offer options for students with lower ENTERs to gain entry to their course of choice. At Monash, students can attend classes aimed at building their academic skills, offering specific instruction in reading, writing and preparing for assessment (Haigh et. al.: 6). Graduates of this program have been found to complete their degrees, go on to further study or enter the workforce at equivalent rates to students chosen on the basis of ENTER (Haigh et. al.: 6).

Through Ballarat’s Foundation for Academic Studies, students with an ENTER below 45 can apply for a 13-week full-time preparatory program which, if completed successfully, guarantees them a place in an undergraduate degree related to their interests and abilities. Entry to some of the degree programs also requires interviews and demonstration of commitment or specific personal qualities.

The University of Melbourne offers scholarships through the Access Melbourne program, which combines special entry programs and access scholarships to boost the participation of educationally, financially or socially disadvantaged students. Twenty per cent of students offered places in undergraduate degrees apply through Access Melbourne and may be offered a place despite having an ENTER below the clearly-in band.

uniTEST

In 2007 plans were announced to pilot an aptitude test — the Student Aptitude Test for Tertiary Admission (SATTA) — to be used in making university admissions decisions. uniTEST, developed by ACER together with Cambridge Assessment, is part of this pilot

program. The test has been designed to aid universities in their selection process by assessing the reasoning and thinking skills needed for success in university studies in the two broad areas of mathematics and sciences, and humanities and social sciences. uniTEST is promoted as a tool for improving equity by minimising the effects of unequal school outcomes — the uniTEST brochure states that uniTEST is designed so that its “content tends to minimize opportunities for coaching and practice”.

To date, the University of Ballarat is the only Victorian institution to use uniTEST, considering applicants with ENTERs of between 45 and 50. Flinders University, Macquarie University and the Australian National University were the other institutions that used uniTEST in 2009. uniTEST pilots were only initiated in 2008 in Australia and information on their evaluation has yet to be published. Based on studies undertaken in the UK, while students with high prior attainment do tend to do well on the uniTEST, “there is ... some evidence that the test reveals academic potential in some candidates that, for whatever reason, have not done well in their GCSE” (ACER and Cambridge Assessment, 2006: 3). The UK studies found that students from low SES areas received lower uniTEST scores on average, and students of Anglo-Saxon background tended to perform better than Bangladeshi, African, Chinese and Indian students (ACER and Cambridge Assessment 2006: 4). At this early point such evaluation cannot be considered conclusive. Moodie (2007) has argued that because performance in uniTEST is so positively related to year 12 performance it largely reinforces information already provided by tertiary entrance ranks. However, given there will be some students from disadvantaged backgrounds who will perform well in uniTEST but not in Year 12, there may be an argument for using uniTEST, or a similar aptitude test, for equity reasons.

3. The effectiveness and limitations of current processes

This section of the paper attempts to provide a balanced assessment of both the advantages and disadvantages of the present admissions process in Victoria based on central coordination of applications and calculation of ENTER. Since its inception, ENTER has been subject to a number of criticisms, particularly in relation to its effectiveness in selecting those most deserving of a university education. This section of the paper presents an analysis of the suitability of ENTER as a selection device, the extent to which the ENTER has an effect on students' behaviour in choosing Year 12 subjects, university courses and institutions, and its ability to cater for the differing missions of institutions in an increasingly diverse tertiary education sector.

A centrally coordinated process that offers institutional autonomy over selection decisions has numerous advantages

The present system administered centrally by VTAC has efficiencies for both applicants and institutions, and minimises administrative and staffing costs. Students can apply for a number of courses simultaneously and the joint modelling and coordination of offers means students are not waiting for offers from alternative institutions before making a commitment (though a possible exception to this claim is the more complicated 'second round offer' phase). A further advantage of central coordination relates to data uniformity and integrity, for rank calculations and other data are handled independently from the institutions receiving the information. Importantly, however, although data handling is centrally administered, institutions retain control of their selection criteria and may use ENTER ranks in whichever way they choose, may use other criteria, and may give particular attention to certain student groups.

ENTER is relatively transparent and has face validity as an objective and fair measure of school achievement and thus preparedness for university

Here lie many of the most hotly contested issues around ENTER. While the mathematics of the scaling system is a cause of confusion for students and parents, the basic concept of a national rank based on academic achievement is relatively easy to grasp. ENTER thus has a certain face validity, though this may be both a strength and a weakness. 'Queuing' for university on the basis of school achievement is an easily acceptable notion for the community and ENTER provides the appearance at least of an objective measure on which fair, unbiased, objective decisions are being made. In simple terms, ENTER is a quantitative measure and thus appears clear-cut, so applicants are not left wondering why others are offered a place ahead of them. To this extent there is transparency.

While simplicity, transparency and face-validity are virtues, in this case they are somewhat illusory. The underlying subjectivity and limits to the precision of ENTER are probably largely overlooked. ENTER invokes unwarranted confidence in the precision of its measurement of student learning. ENTER represents an aggregate of many assessment judgements made by teachers, against criteria and undertaken with professionalism, but subjective and imperfect nonetheless. It is therefore a mistake to assume that ENTER can provide definitive grounds for selection decisions based on school achievement, especially for high demand courses where students' ENTERs are clustered within a narrow range.

Having made these points, it should also be noted in passing that one of the strengths of tertiary selection based on school achievement measures such as ENTER is that it is broadly supportive of educational aspiration and commitment to study in schooling. Since ENTER is calculated from the study scores awarded in the VCE, aspiration to do well in the VCE and aspiration to achieve a particular ENTER rank are consistent with each other. This educative benefit can easily be overlooked. Its importance can be emphasised by considering the likely scenario if tertiary selection were not at all based on measures derived from VCE study

scores. One immediate effect would be that the incentive for academic achievement would be reduced, for some students at least. Another effect would be that attention in some schools would quickly turn to preparing students for whatever alternative selection criteria were in use, indirectly undermining the value and credibility of the VCE. In other words, if tertiary selection does not factor in school achievement, to some degree, then the value of school achievement is partially undermined; conversely, the factoring in of school achievement in tertiary selection is broadly supportive of educational efforts in schools as long as the methods of assessment and performance calculation do not have unduly negative or perverse effects on student and school behaviours.

ENTER ranks are correlated with socioeconomic status and therefore create socio-economic imbalances in the extent and nature of tertiary education participation

It is well established that students from low socioeconomic backgrounds attend university in disproportionately low numbers in most countries, regardless of the education systems in place or the costs of university education (James *et al.* 2008, Cardak & Ryan 2006). School achievement levels give rise to perceptions of academic ability and personal aspirations, and these appear to be the major determining factors for the likelihood of going on to university.

In Victoria, ENTER ranks are highly socially skewed, although the extent and causes of the skewing are debated. The distribution of ENTERs across the social classes reflects deep inequalities in the educational outcomes of schooling. Selecting students on the basis of school achievement is therefore indirectly selecting students on the basis of social class. Selection based on school achievement confers further social advantage on top of existing advantage at the critical point of entry to tertiary education. Tertiary selection processes in themselves can do nothing to alter the problem of social inequalities in schooling, but ideally they should ameliorate rather than exacerbate their effects.

Teese has argued in publications ranging over two decades that better resources, smaller student to teacher ratios and selective intakes mean that private and non-systemic Catholic schools can, on average, support their students to attain higher ENTERs. As long as demand outstrips supply, students from private and non-systemic Catholic schools will take a larger than representative share in university enrolments. Teese argues that “institutional reliance on score enables a direct communication of social influence. In other words, simply by relying on an academic measure of student rank, universities filter their intakes along social lines. The more academically selective the university... the more severe the degree of social filtration” (Teese 2007: 52). The figure below, drawn from Teese’s 2007 study, shows the proportion of students at each of the ten ENTER band deciles drawn from the lowest two SES quintiles. At the highest ENTER band, less than ten per cent of students come from the poorest families, while such students comprise nearly half of those in the lowest ENTER band. As expected in a competitive system, university places (depicted here as a line) are heavily skewed towards the upper ENTER bands. In a completely socially equitable system, a representative share of the two lowest SES quintiles would fall across the forty per cent line.

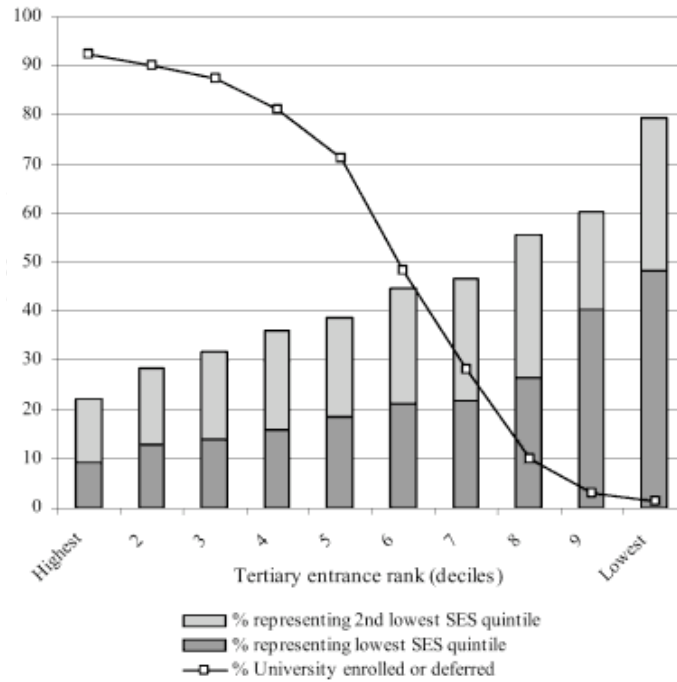


FIGURE 1 Enrolment in university by general achievement band and social profile of each achievement band (Teese 2007: 53)

The figure below, also from Teese (2007), shows the correlation between average study score and social class. The columns represent the percentage of each quintile studying Chemistry. The lines represent the percentages of honours grades and fails for each quintile. While the proportion of students studying Chemistry for each quintile is quite similar, the highest SES students achieve honours grades at over twice the rate of the lowest SES students and have only about one sixth as many fail grades.

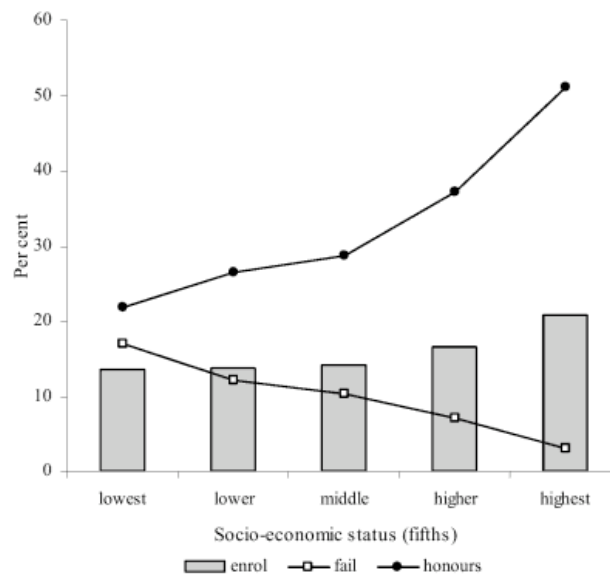


FIGURE 2 Chemistry participation, honours grades and fail grades by socioeconomic status, Victoria, 2000 (%) (Teese 2007: 47)

In an important study, Cardak and Ryan (2006), using data from Longitudinal Surveys of Australian Youth (LSAY) cohorts, tracked low-, medium- and high-SES students' achievement levels in Years 9 and 12, their ENTERs, and their university participation rates. They found that students from the same ENTER bands were equally likely to go to university regardless of socioeconomic background, implying that the cost of higher education was not the primary determinant of participation. As with other studies, they also found that ENTERs (and therefore university participation rates) were highest among students from high SES backgrounds who attended independent schools, and lowest among students from low SES backgrounds. The original aspect of Cardak and Ryan's analysis is in their finding that comparable levels of achievement in Year 9 translated into very different ENTER ranks dependent on students' socioeconomic backgrounds. High SES students who were achieving similar grades to low SES students in Year 9 went on to achieve ENTERs around 10 points higher three years later. This study shows that even strongly achieving Year 9 students from low SES backgrounds may be unable to translate their apparent potential into high ENTERs. This may point to the effects of differing aspirations between high SES and low SES students with regard to the value and attainability of various post-school options. These in turn might influence the personal incentives for academic achievement in senior schooling.

Overall, the findings presented here accord with those of other studies (for example Thomson & De Bortoli 2008; Rothman 2003). As is well established, the academic disadvantage of low SES children begins at the early learning stages (James *et al.* 2008). The uneven distribution over ENTER bands of students from low SES backgrounds is the result of cumulative disadvantage over the course of students' lives. By Year 12, the effects of educational disadvantage are entrenched. ENTER and tertiary selection cannot mitigate for all of these effects.

Helme, Teese and Lamb (2009) point to the curriculum and pedagogical issues that arise in Melbourne's northern metropolitan region from the use of VCE results for determining university entry:

The VCE and its study designs are expected to provide a worthwhile learning experience while discriminating between students for competitive entry to university. However the experience of schools is that the pace of learning and the assessment regime compromise the quality of student learning ... While it is important to increase the breadth of provision, there remain issues in terms of teaching, learning, and assessment in VCE. Only students in the higher bands of SES reach achievement levels comparable with statewide norms and students from the socially least advantaged families risk low achievement, regardless of subject choice.

ENTER is not wholly successful in predicting university performance though for high ENTER ranks (i.e above 80) its predictive capacity is strong

As demonstrated above, ENTER is highly correlated with social class background. However, social class background is *not* significantly correlated with success or retention at university (James *et al.* 2008; Marks 2007; McMillan 2005). Unsurprisingly, then, ENTER is not strongly associated with academic success or retention, except at the high end of the rank. ENTERs above 80 are strongly predictive of university achievement and retention.

Dobson and Skuja (2005) conducted a study comparing the ENTERs, school background and first year performance of full-time, domestic school-leavers in their first year of study at Monash University for each of the 2000 to 2003 cohorts. The authors were testing the extent to which ENTER was predictive of success at university, as well as whether there were patterns associated with the type of school attended (government open, government selective, Catholic systemic or independent). Dobson and Skuja noted previous local studies showing that there was a correlation between high year 12 achievement and high marks at university

(Evans & Farley 1998; McKenzie & Schweitzer 2001; Murphy, Papanicolaou & McDowell 2001). Their own work at Monash confirmed the correlation between high ENTER and strong university performance ($r=0.38$ for ENTER over 80). Importantly, however, they found little correlation between ENTER and university performance for low to middle ENTER bands ($r=0.04$ for ENTER below 80). This finding supports that of Murphy *et al.* (2001), who found in their study of RMIT students that the strongest correlations between ENTER and university performance were at ENTERs above 80, with no correlation between 40 and 80 and variable correlation below 40. The available findings suggest that while a high ENTER is a good indicator of future academic achievement, a lower rank is not necessarily associated with poor university performance. In other words, there are students whose school achievement is lower, as measured by ENTER, but who achieve well at university.

Dobson and Skuja also found that correlations differed with area of study. ENTERs were most predictive of first year performance in engineering, agriculture and science ($r=0.59$ to 0.61) and least predictive in management courses ($r=0.33$), education ($r=0.11$) and health ($r=0.10$). The authors suggest that ENTER's predictive capacity diminishes as subjects move away from areas taught at school (Dobson & Skuja 2005: 55).

Dobson and Skuja also explored the extent to which school background affects success at university. Noting previous studies showing that students from government schools tend to do better at university than students from independent schools with similar levels of school achievement (West 1985; Evans & Farley 1998), Dobson and Skuja also found that students from the same ENTER bands achieved different average levels of success in first year depending on school background. Students who had attended a non-selective government school obtained, on average, grades equivalent to Catholic, Independent and Government-selective school students with ENTERs five points higher across all ENTER bands below ninety-five (*ibid.*: 59; see Figure 1).

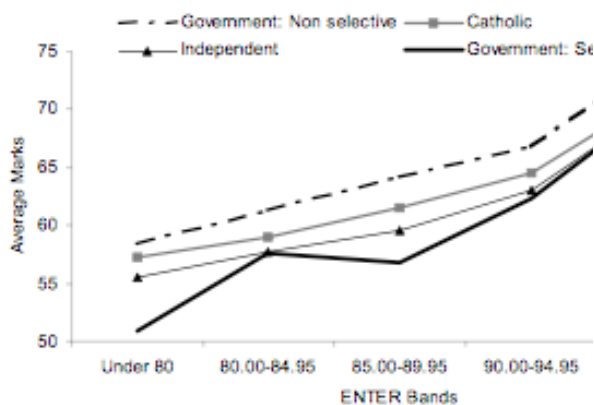


FIGURE 3 Monash University commencing students, 2000 to 2003: average marks at the end of first year, by school type, and ENTER band. (Dobson & Skuja 2005: 59)

The authors concluded that “statistical analysis shows clearly that students from relatively disadvantaged schools, who gain lower ENTERs in Year 12, subsequently catch up to, and then overtake their more privileged counterparts from other school types once at university” (*ibid.* 61).

However, correlative analyses of school background and university success can only speculate about the causes of such correlations. It is possible these studies are revealing that students from highly supportive schools have ‘inflated’ ENTERs. Equally, these studies may

be revealing a 'cultural capital' effect, whereby students from backgrounds with higher cultural capital and with parents who have university degrees, may approach university with different goals to those of other students. There are no doubt other hypotheses that can be proposed.

Not only is ENTER a poor predictor of university success in the low- and mid-ranges, but it is also not particularly useful for discriminating between students within the high ENTER band. As Dobson and Skuja comment in another paper, "it is clear that a student achieving an ENTER of 98 is not radically better than a student achieving an ENTER of 95... Yet those small differences in rank would keep many students out of courses at some universities" (Dobson & Skuja 2007).

Another way of looking at the predictive capacity of the ENTER for aptitude for university study is through a comparison with attrition rates; for while higher grades are useful measures of success, persistence and completion are also important. Marks (2007) found that, all things being equal, the likelihood of completing a university course is quite strongly correlated with ENTER. Marks analysed the Longitudinal Surveys of Australian Youth (LSAY) 2004 data on students who commenced higher education between 1998 and 2001. The raw data suggested that students from Catholic schools were the most likely to have completed their university courses by 2004 (69 per cent), followed by those from government schools (66 per cent) and finally independent schools (61 per cent). He also analysed students' ENTERs, finding that while 72 per cent of those in the top decile had completed, there was a stable completion rate of 64-65 per cent for those in the three deciles in the broad 60-89 ENTER range, followed by 58 per cent of those ranking between 50-59.

On the face of it, these descriptive data appear to confirm Dobson and Skuja's claim that those from independent schools tend to do less well at university and the hypothesis that the ENTER is too blunt to discriminate between mid-range students. Marks' subsequent multivariate analyses of the data, however, reveal quite a different picture. Using a number of variables, Marks found that region, parental occupational background and school background produced statistically insignificant effects. Importantly, socioeconomic background was found to be a statistically insignificant contributor to course completion—if students from low SES backgrounds get to university they are no less likely to complete than their counterparts. The greatest predictor of completion was ENTER, increasing the explanatory power (R-square in the Table 1 below) of the model from four to eleven per cent. While field of study was also an important factor, it could not account for the strength of the ENTER effect.

Table Influences on expected completion of any university course commenced between 1998 and 2001. (Marks 2007)

Variable	Values	Model 1 (social & demographic variables)	Model 2 (Model 1 + school sector)	Model 3 (Model 2 + ENTER score)	Model 4 (Model 3 + university field of study)
Intercept	Intercept	1.28***	1.15***	1.21***	1.46***
Gender (reference = Male)	Female	0.28**	0.25	0.45***	0.42**
Region (reference = Capital city)	Major Urban region	0.16	0.18	0.37	0.31
	Large Provincial City	-0.39	-0.43	-0.08	-0.12
	Small Provincial City	0.37	0.28	0.17	0.14
	Other Provincial	0.06	0.17	0.17	0.10
	Remote	0.14	0.19	0.35	0.15
Occupational Background (reference = Manual)	Managerial	0.18	0.15	0.16	0.17
	Professional	0.38	0.39	0.49*	0.43
	Para-professional	0.17	0.14	0.26	0.27
	Clerical/sales	-0.01	-0.02	0.11	0.06
	Trades	-0.58**	-0.55**	0.10	0.06
School sector (reference = Government)	Catholic		0.58***	0.33	0.34
	Independent		0.01	-0.31	-0.31
ENTER Score	(Centred at 80, divided by 10)			0.43***	0.42***
University field of Study (reference = Management & Commerce)	Natural & Physical Sciences				0.07
	Information Technology				-0.59
	Engineering & Related Technologies				-0.44
	Architecture & Building				-0.21
	Agriculture, Environmental & Related Studies				0.17
	Health				-0.08
	Education				0.25
	Society & Culture				-0.53*
	Creative Arts				-0.25
	Medicine, Dentistry, Veterinary Science, Law				1.14
	Other				-0.56
	R-square	0.03	0.04	0.11	0.13

Note: Within 4 to 6 years. Logistic Regression Coefficients. Statistical significance: ***P<0.001, **0.001<P<0.01, *0.01<P<0.05

Marks concluded that while these findings indicate that students with similar ENTERs have similar completion rates regardless of their other characteristics, “an expansion of university participation could increase course non-completion if expansion meant more students with lower ENTER scores” (Marks 2007: 27).

Thus the evidence shows ENTER has varied predictive power. Dobson and Skuja’s single institution study indicated that, in the case of school background, a lower ENTER does not necessarily lead to similarly lower average grades at university. Marks finds in his analysis of the LSAY data that the correlation between high ENTERs and likely course completion is strong. The important conclusion here is that while it seems true that high ENTERs tend to produce strong university performers, lower ENTERs are less predictive.

These findings are particularly important in a context of institutional diversity. Since ENTER tends to be reliably predictive of university success at the high end of the rank (above 80) but less predictive at the mid to low range, the utility of the ENTER as a method of selection will depend on the pool of students from which a university draws for a particular course. For courses for which there is high demand, the ENTER may be a useful selection tool. For courses admitting students from the mid or lower ENTER ranks, ENTER is less valuable.

ENTER is mistakenly interpreted to be ‘the VCE result’

As noted in the introduction to this paper, a powerful criticism of ENTER is that it has come to represent a de facto ‘VCE score’. The VCE does not confer a single score or grade. Students can successfully complete the VCE in a number of ways, including, for example, VET studies and studies which incorporate school-based apprenticeships, though these studies may not contribute to ENTER calculations. Successful completion of a study is signified by the award of ‘S’ and unsuccessful completion by ‘N’. In units 3 and 4 in Year

12, study scores are given as well as pass/fail signifiers ('S' and 'N') (VCAA 2009). While study scores are used to calculate the ENTER, only the satisfactory completion of an approved set of studies is necessary to achieve the VCE. There is currently discussion of the possible scoring of VET modules within the VCE, so that these modules, which have traditionally been competency based, can contribute to the ENTER (Brown & Sutton, 2008).

There has been much criticism of the tendency to equate a low ENTER with failing the VCE. Timmins argues that "it is an unfair attribution and label for the many thousands of students who have met the requirements of the VCE and who are now employed, undertaking further education and training and who finished in the lowest fifth of a cohort" (Timmins, 2002).

Misunderstanding of the scaling process associated with ENTER appears likely to influence the selection of VCE subjects

The evidence on the effects of ENTER on secondary students' subject choices is anecdotal rather than systemic. Nonetheless, there is little reason to doubt that students make strategic decisions based on the assumption that certain subjects are advantageous once scaling is undertaken. However, these decisions are based on misconceptions rather than the reality of the scaling process.

A brief overview of the scaling process is necessary at this point. Raw VCE Study Scores, which themselves are ranks with an endpoint of 50, are scaled to produce ENTER Subject Scores according to the 'strength of competition' in each subject (VTAC 2008). If students in one subject all scored relatively highly in their *other* subjects, the subject's mean is then 'scaled up' from 30. If the students tended to achieve lower scores in their other subjects, the subject's mean is scaled down. So if a student is in the middle rank (which is set at a score of 30) for a subject in which other students are 'strong,' their score will be scaled up to reflect the relative difficulty of achieving the median place in that subject (and vice versa).

VTAC stresses that the scaling system is conducted so that different subjects are *not* more likely to increase an individual's ENTER. The VTAC guide *ABC of Scaling* states that:

VTAC's role is to provide a way of ranking students that is fair to students even though they have taken different studies... Scaling ensures that it is equally easy to attain a high ENTER regardless of the combination of studies a student undertakes. This is not always understood and many students believe that to achieve the best possible ENTER they need to choose subjects that are scaled up. This is not true... (VTAC 2008)

Analysts consulted for this study agreed that subject choice does not affect ENTER due to the role played by scaling, however it should be noted that complex cause and effect relationships are at play. Calderon, Dobson and Wentworth demonstrated in their 2000 study of successive Monash University student cohorts that certain subject combinations tend to achieve higher ENTERs than others and that these combinations tend to be taken by students from independent schools.

It is unsurprising that the perception arises that certain subject choices provide for advantageous ENTERs once scaling has taken place. The reality, however, is that the 'scaling up' for these subjects is a result of these subjects being more likely to be taken by students whose achievement on their other subjects overall is higher.

ENTER may encourage competitive rather than informed course/institution choice behaviours

One of the undesirable effects of current selection processes in Victoria and is that ENTER cut-offs tend to be a proxy measure of course quality or private-good value. Prospective students are therefore under some pressure not to 'waste their ENTER' and there is a self-

selection of students into courses of relatively high prestige as students seek to optimise the 'returns on their ENTER'. As James (2007) argued:

Part of the private benefit of higher education is in the social differentiation it provides. This hinges on exclusiveness: the value of higher education as a private good is relative to the 'other'; that is, the people without higher education. The more people who have higher education, the less positional value it has. As overall access to higher education expands, the desire for social differentiation is therefore increasingly sought in choice of institution, course and higher degree studies.

Students with high ENTERs tend to choose courses in the more selective fields such as law and medicine; this behaviour pushes ENTERs up further, increasing the sense of exclusivity. Conversely, institutions can find it difficult to attract high achieving students to, for example, their education courses.

There is a market in tertiary places in operation, of course, and ENTER is the currency of this market. In the absence of 'hard data' on the likely standard of courses and their appropriateness to an individual student's skills and interests, ENTER cut-offs stand as measures of quality and relevance. This does not encourage informed decision-making based on knowledge of institutional and course qualities and characteristics. In addition, the timeline for ENTER computation, offers and acceptance is tightly compressed and students are required to make hasty choices at the time of first round and second round offers.

4. Recommendations for enhanced tertiary selection processes

Victoria needs to develop new tertiary selection practices based on recognition that:

- a larger, broader, more diverse group of people than ever before will undertake tertiary education during their lives;
- social imbalances in educational participation and outcomes must be addressed, and federal targets will provide much impetus for improvement in this area;
- tertiary institutions will have more highly differentiated missions and courses;
- new partnerships between secondary and tertiary institutions will emerge; and
- the pathways into and within tertiary education will grow and diversify.

This section of the paper presents the argument that selection practices need to change in Victoria. The principal conclusion of the study is that it is time to consider how tertiary selection criteria can be diversified and new criteria legitimised alongside school achievement. This is necessary to advance participation in tertiary education and to improve equity. Alternative criteria to school achievement are in use, of course, and their use may be growing. The imperative now is to plan for statewide change towards agreed criteria within an agreed selection framework rather than continue with the current incremental, informal diversification. The new federal policy settings provide an excellent opportunity to explore possibilities and to reach consensus on change.

Some conclusions on current processes and practices

High expectations are held for tertiary selection processes. Not only should they recognise prior academic achievement and existing knowledge and skills, but also latent educational potential. It is also desirable that they identify specific aptitude and motivation for studying in a particular field of study or career as well as the likelihood of persistence, success and completion in tertiary study. They should promote educational achievement and aspiration and encourage a wide range of people to aspire to tertiary education — certainly they should not act as a deterrent or an obstacle. They should be fair, socially equitable, transparent and easily understood; equally, they should not be too cumbersome or costly to manage.

These ‘ideal’ requirements for selection practices are demanding and unlikely ever to be fully met. Nonetheless, in the light of these benchmarks, how effective and appropriate are Victoria’s current tertiary selection practices? The present processes have the advantage of the efficiencies of central coordination and relatively high levels of transparency in some regards. Much emphasis is placed on the ranking of school achievement, as measured by the study scores students obtain in the VCE. While school achievement is an important consideration, the present emphasis on ENTER is problematic. The analysis of the suitability of ENTER in the preceding section of this paper reached conclusions that can be summarised as follows:

- ENTER has the advantage of being relatively transparent and has face validity as an objective and fair measure of school achievement, and thus preparedness for university. Some of these benefits are somewhat illusory, however, and ENTER is attributed a precision that is not deserved.
- ENTER ranks are highly correlated with socioeconomic status, thus their use in tertiary selection results in significant socioeconomic imbalances in tertiary education participation;
- ENTER is not wholly successful in predicting university performance though for high ENTER ranks its predictive capacity is strong;
- ENTER does not measure aptitude or motivation for particular fields of study or careers;
- The computation of ENTER from VCE assessment influences how schools and students approach teaching, learning and assessment, and while this partly establishes

- the conditions for academic aspiration it may also create narrowly instrumental approaches and place undue emphasis on examinations as a form of assessment;
- the use of ENTER tightly compresses the timeline for decision-making for both school-leavers and institutions and prevails against more considered matching of individuals to programs; and
- selection based primarily on ENTER may encourage competitive rather than informed course/institution choice behaviours.

On VTAC estimates, three quarters of admissions are based solely or primarily on ENTER. This may be an overestimate. With ENTER's high visibility, the widespread use of other selection criteria is easily overlooked. The available data suggest a diversity of selection criteria, and a possible growing diversity, that is not widely recognised. Even so, criteria other than ENTER may often operate in the margins rather than the mainstream and may be more prominent in the courses for which there is lower demand. These criteria are used in conjunction with ENTER rather than instead of it, and often in middle-band selection decisions. The transparency associated with their use is varied. The transparency of the highly subjective processes such as interviews, portfolios and teacher recommendations, as examples, is probably low.

As a result of the present selection practices based predominantly on school achievement, universities perpetuate and extend the social inequalities that develop in schooling. This is done somewhat inadvertently, of course, for selection in the main part is constructed around two principles: academic merit and demonstrated readiness to begin higher studies. The argument in support of school achievement measures for tertiary selection — that academic achievement in school ought to be rewarded with a course and institution of one's choosing — is a matter of values and cannot be resolved empirically. However, the argument that school achievement usefully predicts the capacity to do well in tertiary education can be examined empirically; the evidence suggest the argument has some basis but it is not entirely compelling. For the fields of study in which knowledge is hierarchical and cumulative, or for which tertiary studies build directly on school subjects, ENTER, and, more particularly, subject scores, provide an indication of readiness to commence higher-level studies and likelihood of success. But many tertiary studies commence from new disciplinary points of course. In summary, academic success at university and future career success depend on factors that ENTER does not measure.

ENTER could be calculated in different ways, of course, however tinkering with the formula will do little if anything to alter its fundamental character. Selection criteria based solely or predominantly on school achievement will be socially biased and will have shortcomings in their capacity to identify factors such as aptitude for particular fields of study or motivation for study.

The logical conclusion is that tertiary selection criteria in use need to be expanded and their use diversified in order to advance participation in tertiary education and to improve equity. To advance selection practices, the means must be found to introduce, legitimise and integrate a number of criteria, while recognising that different criteria will have differing degrees of relevance across the institutional/course spectrum. This is partly an uncomfortable conclusion, for it demands a more sophisticated statewide selection model, with the risk of the application/selection process becoming more complex for applicants.

It must be stressed that institutions use criteria for quite different purposes and thus the criteria themselves require different qualities. For the courses for which demand from suitably qualified exceeds the number of places available, institutions use criteria to rank applicants. In these cases, selection criteria are used in what is effectively a two-stage process: first, to ensure appropriate levels of preparation or aptitude have been demonstrated; second, to discriminate on some defensible basis between appropriately qualified applicants

(given that ballots are used rarely, if at all). It is in this second stage that ranking occurs. The desire to ‘rank and cull’ generates an imperative for quantitative criteria, thus the prominence and acceptance enjoyed by ENTER. The ranking imperative leads even to informal quantitative adjustments to ENTER on the basis of subjective criteria — such in the practice of awarding additional ‘ENTER points’ for rurality. For the courses in which supply exceeds demand the emphasis is on recruitment rather than selection and the decisions in selection are centred on evidence for threshold levels of preparedness to meet the academic requirements of the course. This is in effect a one-stage process and the selection criteria do not need to lend themselves to quantification.

It can be concluded from the analysis presented in this paper that changes in selection criteria will be unlikely — in themselves — to compensate fully for educational and social disadvantage. First, selection criteria and processes clearly are not a corrective for the underlying problem of under-achievement in schooling. Second, most, if not all, ‘ability-oriented’ selection criteria appear to introduce some degree of social filtering. Objective criteria of ‘ability’ or ‘preparedness’, regardless of whether these are based on academic achievement, aptitude testing, admissions testing, interviews or portfolios, are influenced by the capacity of people from higher and medium socioeconomic status backgrounds to optimise their opportunities through their greater educational, cultural and financial resources. Thus there is likely to be some filtering out of low SES people whenever seemingly objective ‘ability’ criteria are used. The implication of this conclusion is that compensatory processes in student recruitment and selection will always be necessary to reduce social inequalities. Tertiary institutions already have a range of ways of doing this, including through programs that recognise, for example, sustained educational disadvantage or the possible adverse effects of rurality. Students admitted through such programs have rates of retention and success that are broadly comparable to those of other students, or in some cases only marginally lower — retention and success are not strongly correlated with socioeconomic status for the cohorts enrolled through present tertiary admissions processes. There is scope to diversify and expand such programs while closely monitoring students’ transition to tertiary education and their patterns of academic achievement as a wider range of people is enrolled.

Principles for improving tertiary selection practices in Victoria

1. Centralised coordination of applications and data should continue.

A centrally coordinated application process that preserves institutional autonomy over selection decisions has numerous advantages. Given the advantages of central coordination, it is desirable to plan now for the more complex selection needs of the future. There is the possibility that institutions might be inclined to move away from a centrally managed application process. In an expanding, competitive and diversifying tertiary sector selection criteria, processes and timing points will diversify too. Already there may be a piecemeal shift towards the adoption of alternative criteria although this study is not in a position to test this hypothesis. In any case, the likely future diversification of selection practices will strain the capacities of a central coordinating of applications and data. It would be wise for Victoria’s tertiary institutions to plan now for future processes of application that retain the integrity and benefits of central coordination.

2. Less emphasis should be placed on school achievement as a selection criterion across the tertiary sector as a whole, though it will remain an important consideration for certain courses and institutions.

Progress will be made if it is acknowledged that new criteria deserve legitimacy and status alongside school achievement. ENTER needs to be somewhat less emphasised and other criteria formally established. The introduction of additional criteria adds to complexity and costs but this is the trade-off needed if improved social equity and social inclusion is to be achieved.

3. A tertiary selection framework should be developed that defines the available selection criteria and articulates agreed protocols for the use of each.

Multiple selection criteria need to be developed within a common statewide framework for their use. Ideally, a national framework would be desirable. Transparency, uniformity, fairness and the reduction of duplication are among the goals here. This recommendation requires the tertiary sector to commit to using both quantitative and qualitative data on prospective students in accordance with agreed principles.

4. A generic statewide aptitude test should be introduced.

This recommendation seeks to elevate the prominence and legitimacy of existing aptitude testing. A significant if not crucial step in the development of alternative selection criteria, and in influencing community perceptions about merit, would be the introduction of a common generic aptitude test that could be taken voluntarily by those seeking to enter tertiary studies. Discipline-specific testing could be used within a generic aptitude assessment. The existing GAT is not appropriate for these purposes for it is closely associated with the VCE and ENTER computation and some separation from these is desirable.

Statewide aptitude testing, with data collation by VTAC, would have the benefits of psychometric robustness, objectivity and consistency. It would allow comparison on a quantitative criterion other than school achievement, and thus would contribute to loosening the dominance of ENTER. The aptitude testing would be used for school-leavers as well as others, noting that it offers particular opportunities for people who have not completed schooling and who enter tertiary education from alternative pathways, as is occurring at the moment with existing tests. Individuals could make a decision whether or not to sit the test according to the published selection criteria for the courses in which they are interested.

5. A single composite index or rank should not be calculated by VTAC from the available quantitative measures.

A single criterion, measure, index or rank can never provide sufficient information on the considerations that are valued in determining tertiary admissions. Further, individual institutions should have the autonomy to determine the extent to which they wish to incorporate particular criteria in their selection decisions. Some institutions rank in order to make selection, as discussed above, but such ranking is their responsibility and not that of VTAC. The computation of a single statewide index from, say ENTER and an aptitude test, would largely defeat the thrust of the argument in this paper, which is create the conditions for the sound diversification of the use of consistent selection criteria and to allow — or require — institutions to weigh these measures up according to their own objectives.

6. Admissions testing on an individual institutional basis is to be avoided.

It is important to avoid creating a situation in which individual institutions are encouraged or feel compelled to establish admissions testing on a large scale. In other words, uniformity of criteria and central co-ordination of processes have benefits in efficiency and possibly in equity as well. The inclination to introduce admissions testing might be strongest in the more highly selective institutions if confidence were to be lost in centrally co-ordinated selection processes. Institutional admission testing could have a number of harmful effects. It is potentially highly costly and demanding of students. Further, it is potentially socially polarising if some schools decide to ‘teach to the test’, which would be likely.

7. Institutions should be explicit regarding the ways in which, and the extent to which, various criteria are factored into selection decisions for particular courses.

Institutions will appropriately seek to use criteria in different ways and to differing extents. This is already taking place of course, so the inclusion of this recommendation serves simply to highlight the need now and into the future for institutions to make publicly available the grounds on which they will make decisions.

In some ways these recommendations represent the formalisation of the directions in which existing processes appear to be heading. The proposal to consider the introduction of a statewide aptitude test recognises the apparent trends in this direction and is a vital element in shifting the focus from school achievement. The table on the following page presents a simple sketch of possible criteria within a new multiple-criteria selection framework. The line separates quantitative and qualitative criteria. The order of presentation is not intended to be hierarchical.

Selection Criteria Framework

1. School achievement:	Overall (Australian Tertiary Admission Rank, ATAR) Individual subjects
2. Aptitude test result:	Generic Field of study
3. VET achievement	Generic Field of study
4. Portfolios	
5. Interviews	
6. Statements of recommendation	

Criteria 1-3 are typically highly quantifiable. Criteria 4-5 are unlikely to be quantifiable, in a statewide sense, for institutions will be seeking highly specific qualities and characteristics. It follows that information on criteria 1-3 could be centrally collated and distributed by VTAC but this is neither feasible nor desirable for criteria 4-6. Nevertheless, the processes around criteria 4-6 at institutional level need to be transparent for prospective students.

The above criteria differ in their capacity for discriminating between individuals and the purposes for which they might be used. Institutions might use this array of criteria in different ways, and should be encouraged to do so, in order to admit a wider range of people and to recognise new forms of knowledge, skill and creativity to be recognised. Importantly, institutions would need to publish clear information on their selection criteria for particular courses. There are a number of possibilities here, of which a few are sketched below simply for illustrative purposes. These sketches are not intended to depict in detail how such approaches might be implemented, rather they are designed to convey an impression of the diversity that would be generated within the tertiary sector if selection criteria in addition to ENTER/ATAR gained greater legitimacy.

A framework such as the above would allow for new ways of demonstrating merit, preparedness, aptitude and motivation that could be tailored to the requirements of particular institutions and courses. It would allow for better individual-course ‘matching’ while recognising the limits to which this can be achieved. It would also offer the opportunity for a longer period over which ‘evidence’ could be assembled and during which prospective students might make their decisions. The section on the following page provides a sketch of how this might operate in practice.

Processes for consultation with stakeholders

Achieving the model outlined above would require widespread change in culture, policy and practice across the tertiary sector, schools and the community. It will be increasingly difficult to maintain a coordinated, statewide process of tertiary selection as participation rates grow within a diverse and competitive tertiary sector. Yet is it in the community interest to do so. The model outlined above is provocative in as much as it calls for 'coordinated complexity'. The acceptance of a more diverse and more explicit set of criteria for informing tertiary selection would require an extensive period of consultation. A starting point is consultation with key leaders, policy-makers, educational researchers and commentators. An invitational symposium that opened up the question of the appropriateness of current selection practices for renewed debate might provide the impetus for change. An abridged version of the present paper might serve as a useful discussion paper for such an event.

5. A hypothetical scenario: The tertiary sector in 2015

What might the Victorian tertiary sector look like in five or ten year's time? What selection and recruitment practices will be in place?



By 2015 a new, highly differentiated tertiary sector is taking shape. A new category of institution has emerged, the polytechnic, which bridges universities and TAFE institutions by offering two year foundation degrees. Three universities have formed a coalition to create a two-year community college in an educationally disadvantaged region. There is also a pilot program that houses secondary and tertiary education on a single campus — and plans as well for a ‘toddler-to-graduate’ institution that would combine primary, secondary and tertiary education on a regional campus.

By 2015, private providers have proliferated and the boundaries between higher education and VET are increasingly blurred. At the same time, two universities have become increasingly ‘graduate’ in character – one even has a 10 year plan to become entirely focussed on graduate studies and research.

The tertiary sector has thus become rich with educational possibilities. This is a complex terrain for prospective students to navigate. The diversity of the sector has led to repeated questioning of standards and calls for greater transparency of standards and outcomes.

Demand for particular courses and institutions varies greatly across this diverse sector. The prestigious, research-led institutions continue to have high positional status and experience high demand for their courses. Equally, there is strong demand for institutions that have developed reputations for their pedagogical distinctiveness and the employment outcomes for their graduates. There are also certain institutions that experience significant annual fluctuations in demand. Savvy student recruitment strategies are essential for their survival.

The challenges of tertiary education selection and recruitment thus play out in quite different ways across the sector. Some institutions experience especially high demand from school-leavers and rely heavily on academic achievement in schooling in their selection-rejection decisions. Others have developed effective systems for matching student aptitude to participation fields of study. Others still have very open recruitment practices, as far as prior educational attainment is concerned, but they do interview prospective students to determine motivation and expectations. All institutions have equity programs to improve the participation of educationally disadvantaged groups.

Regardless of these differences, the tertiary sector has a common framework for application, selection and offers of places. VTAC manages around 75 – 80% of enrolments each year. The common framework is believed to be important for simplicity (from the applicant's point of view), transparency and standards. Victoria's agreed, statewide student selection and recruitment framework includes common selection criteria. These include the Australian Tertiary Admission Rank, which measures school achievement, the Victorian Tertiary Aptitude Test (VTAT) which assesses general aptitude for particular fields of study, and interviews and portfolios, for which there are statewide protocols for quality assurance – and to ensure that, for example, students can use a single portfolio for application to a number of institutions.

People may sit the VTAT at any time. Many school students sit the test near the end of Year 11 – this allows them to begin making planning and to make early applications to particular institutions that allow and encourage this.

Institutions have significantly difficult selection/recruitment practices within the common framework. All institutions make their selection criteria explicit on their websites. A few examples illustrate the diversity of practices:

Course A: 40 per cent of places are allocated on ATAR ranking and 60 per cent allocated on the ranking from the Victorian Tertiary Aptitude Test.

Course B: An aggregate index is calculated by summing the ATAR and the Victorian Tertiary Aptitude Test, followed by selection based on rank order.

Course C: 90 per cent of places are allocated on ATAR and 10 per cent on the Victorian Tertiary Aptitude Test plus Statements of Recommendation.

Course D: Students must achieve a threshold score on the Victorian Tertiary Aptitude Test.

Course E: Students must achieve a threshold score on the Victorian Tertiary Aptitude Test in order to be ranked on the basis of assessment of a portfolio.

Course F: Students with an ENTER above 80 *or* a Victorian Tertiary Aptitude Test score above 80 gain entry to a ballot for the allocation of places.

Course G: Entry is entirely based on portfolios.

Course H: 50 per cent of places are reserved for students from partner schools, 25 per cent of places are reserved for students who have successfully completed foundation degrees at the new community college.

Of course for some institutions and courses the concept of selection now has little meaning — guaranteed pathways have been arranged with partner institutions that allow seamless student transitions that offer curriculum coherence and continuity.

A number of institutions use the VTAT, interviews and/or portfolios as the basis for ‘conditional’ offers to year 12 students prior to VCE completion. For example, one institution makes conditional offers to students from ten partner schools at the end of Year 11, based on VTAT scores. Students are then required simply to successfully complete the VCE in order to confirm their place. There are many variants of this approach.

ATAR is an important criterion for some institutions and courses. However, students make a decision whether or not to have an ATAR calculated – this is not computed automatically. Students can find out the institutions and courses that consider ATAR in selection by reference to institutional websites. The policy decision to make ATAR optional was a small but significant step in loosening the tight relationship between Year 12 study and tertiary entrance requirements. The VTAT also assisted in this regard.



This scenario is merely a sketch of the possibilities that might emerge, however it serves to illustrate the diversification likely to occur, whether planned or otherwise. The opportunity exists now in Victoria to develop a coordinated approach to tertiary selection that offers simplicity, consistency and transparency for prospective students and that maintains the benefits of central application and offers. For this to occur, the tertiary sector must undertake the consultation necessary for a common tertiary application framework and for a new range of agreed selection criteria.

APPENDIX: INTERNATIONAL PERSPECTIVES

This appendix provides some insights into tertiary admissions criteria and processes in the USA, United Kingdom and Finland. The case studies are broadbrush, for the objective is simply to provide contrasting examples of the admissions processes used in other nations in which the relationships between schooling and tertiary education are constructed in different ways. All of the three nations have less centralised processes than Australia's states. All exhibit a more diverse and a broader base of consideration for admission decisions than in Australia, though not necessarily for particular institutions. Admission in the USA is notable for the emphasis on generic aptitude testing. In Finland, entrance examinations tailored to particular fields of study are common. There are examples across all three nations of the incorporation of teacher recommendations into selection processes.

The USA

Aptitude testing is prominent in the USA. Admissions are generally on the basis of students' SAT, PSAT or ACT⁶ results, around which there is a massive industry. The university entrance process is decentralised, with universities determining their own requirements.

The SAT Reasoning Test is designed to ascertain students' level of critical thinking skills and is claimed to be a determinant of whether or not a student is ready for college. It is the most widely used admissions test. SAT Subject tests, used in conjunction with other information such as high school grades and teacher recommendations, are also used by many universities for admission and for the purposes of subject selection advice. The ACT is a multiple-choice test designed to assess students' readiness for higher education, testing skills in the areas of English, mathematics, reading and science.

The SAT Reasoning Test is claimed to be "one of the best predictors of how well students will do in college" (CollegeBoard 2009). Essentially a generic aptitude test, it is often used alongside SAT Subject Tests, each of which are more an 'achievement-type test' (Geiser & Studley 2002: 1). The University of California employs both of these as measures in its selection processes and has found that the achievement tests are "consistently better predictors of student success at UC" than the aptitude test.

Despite the extensive use of SAT and ACT in admissions, there are of course many other pathways into higher education. FairTest, The National Center for Fair and Open Testing, found that over 815 institutions across the US do not base their admissions decisions on SAT and ACT results and, for a substantial number of students, no attention whatsoever is paid to SAT or ACT results.

Equity is also a major objective in the USA and there is a plethora of equity initiatives. Many universities work in partnership with other organisations to improve equity. The Common Application program allows students to apply to any number of its 346 members using a single application. Participating colleges and universities are those that claim to "promote access by evaluating students using a holistic selection process" involving objective criteria, a recommendation and an essay. Membership includes public and private institutions across the country that may be highly or only modestly selective. Seven of the eight Ivy League schools are members.

QuestBridge is an example of a non-profit organisation that puts promising low-income students in touch with scholarship opportunities around the country at some of the more

⁶ Scholastic Assessment Test, Preliminary Scholastic Assessment Test, and American College Testing.

prestigious institutions. As some states have introduced legislation against using decisions based on race for the purposes of positive discrimination, many institutions have begun focussing on students from lower-income families. Similarly, the Posse Foundation works to identify students at public schools in Atlanta, Boston, Chicago, Los Angeles, New York or Washington, D.C. whose academic and leadership potential may not have been identified by universities. It emphasises these strengths to the universities through the Dynamic Assessment Process, which includes group and individual interviews to select a 'posse' of ten students for each of the 33 participating colleges and universities. These institutions then extend full tuition scholarships to Posse scholars for the full four years of their degree. The Posse Foundation claims a graduation rate of 90 per cent for Posse scholars whereas the US average six-year graduation rate is 57 per cent (Graves, 2008). While there are obviously many other variables (guaranteed financial security for the course of their degree is a significant benefit awarded Posse scholars), this disparity does suggest that alternative methods for identifying potential in applicants can be effective.

United Kingdom

The UK's Universities and Colleges Admissions Service (UCAS) functions somewhat similarly to Australia's Tertiary Admissions Centres, but at a national level. Applicants are required to submit a personal statement and an academic reference and it is possible for students to apply before having completed high school, at which point their grades cannot be taken into account. The use of interviews and admissions tests to determine whether students receive a conditional or unconditional offer is becoming more commonplace.

In terms of equity of access there is significant under-participation from certain groups. While close to half of the English population is considered of low socio-economic status, only 28 percent of full-time bachelor degree students come from these groups (James 2007: 4). Efforts to increase participation of these groups have had limited success.

Admissions testing for specific fields of study is far more commonplace in the UK than in Australia, especially for high demand courses. Examples include the BioMedical Admissions Test, used to determine admissions for numerous medical and veterinary courses, the UK Clinical Aptitude Test for medical and dental schools, the Health Professions Admissions Test for certain medical courses, and the GAMSAT (Graduate Medical School Admissions Test UK), administered by ACER. The National Admissions Test for Law was introduced by leading universities to determine the most suitable candidates. Cambridge and Oxford Universities have their own examinations for particular courses, including the English Literature Admissions Test, History Aptitude Test and Cambridge's Modern and Medieval Languages Test, Sixth Term Examination Papers for mathematics courses, and the Thinking Skills Assessment.

Finland

Finland has a binary tertiary sector comprised of 20 universities and 29 polytechnics. Both types of institution are free of tuition fees, determine their own requirements for entry, and have options for postgraduate study. In principle the admission requirement is a secondary general or vocational diploma. The Ministry of Education describes an open, accessible system:

Students' opportunities to progress from one level of education to the next are safeguarded by legislation. Both general and vocational upper secondary certificates provide eligibility for further studies in universities and polytechnics. A student completing one level is always eligible for the next level studies.

Finland's universities are responsible for the provision of education in the areas of sciences, humanities and the arts. Applications for admission are made directly to institutions.

Entrance is typically based on matriculation results, but in recognition that high school achievement does not necessarily translate into success at university, entrance examinations are also used (Davies et. al. 2006: 12). These comprise subject material from school curriculum with additional topics chosen by academic departments. In the natural sciences, engineering and architecture, common entrance examinations have been established for all universities. For entry into competitive areas such as law, students tend to study intensively and perhaps take private preparatory courses. Interviews and auditions may also be used to determine entry.

Finland's polytechnics were established to train professionals for the workforce and to promote regional development (Dobson 2008). Unlike universities they use a common application system, but entrance criteria are similar, considering school results and aptitude or suitability tests. While the polytechnics were originally introduced as an alternative for the people making up the "vocational and matriculation backlog" (Davies et. al. 2006: 8), they have since gained comparable status to that of universities and are considered to produce graduates with strong experience in their disciplines. As a result of the unmet demand for university places, polytechnics often allow earlier entry to students.

Reforms to policy in the early 1970s removed much of the inequality that had to that point been present in access to university (Dobson, personal correspondence). Free access to education has assisted in eliminating barriers to participation and there are impressive student support and loans systems that further facilitate study for Finns. However, despite the theory on open accessibility, in practice many people often miss out on places. It has not been uncommon for only one half of tertiary study applicants to gain places. For those students aged 20-24, the educational background of parents seems to considerably affect the likelihood of university admission. The participation rates of those from 'a more academic home background' are at least ten times higher than those from less educated families (Davies et. al.: 22). This disparity is especially the case in universities. Those unsuccessful in gaining admission may apply again in following years, whereas polytechnic students tend to avoid this wait and begin their tertiary studies earlier, at 19 or 20 years of age (Davies et al 2006: 13).

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