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The credit matrix – building bridges between qualifications

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Introduction
This paper responds to Gunther Schmid’s argument that ‘transitional labour markets’, defined as institutionalised arrangements which allow or support an individual’s transitions between work and other socially or economically useful activity, are needed. It particularly focuses on how the structure of the labour market requires education and training systems to re-examine how they operate so that they better meet the needs of individuals. The core argument is that a common system to describe all learning is needed regardless of where it occurs, in order to make it easier for individuals to access education and training and acquire qualifications, or parts of qualifications, throughout their lives.

Inspired by models operating or in development overseas, the Victorian Qualifications Authority (VQA) is currently working on the design and possible implementation of a credit-based system – the credit matrix – that would apply across all the post-compulsory qualifications currently available in Victoria. Designed to work with, and enhance the Australian Qualifications Framework (AQF), the VQA believes that the credit matrix could provide the basis for improving linkages between qualifications both in and across the Senior Secondary, Vocational and Training (VET) and Higher Education (HE) sectors. It would work by describing units or components of qualifications in terms of points (for volume of learning) and levels (for complexity of learning).

Background
Like most other Western economies, the Australian economy is dominated in terms of output and employment by the services sector. However, as growth is dependent on developing ‘knowledge industries’, staff are needed who are highly educated, skilled and willing to learn new skills (Ziguras et al 2004, p. 5). At the same time, there has also, as Schmid argues, been a shift since the 1970s towards ‘individualisation’, where individuals “are increasingly seeing themselves as the creators of their own, non-collective life plans.” (Schmid 1998, p. 3) The implication for education and training systems is that they need to be structured in such a way as to make them as flexible and accessible as possible, in order to accommodate the raft of different pathways which individuals may follow through their lifetime.

According to Schmid, individuals will go through several ‘critical events’, such as job loss, school to work transitions, movement from one skilled job to another, from part-time work to full-time and vice-versa, from unpaid family work to paid work and from work to retirement. Schmid argues that such transitions may be negative or positive depending on the individual’s capacity to adjust, and thus, the danger with such critical transitions is that “they kick off processes of social exclusion.” (Schmid 1998 p. 8)

The capacity to cope with transitions is particularly important as individuals move between education and training and work:
Transitions from school to work are always a critical phase in each individual’s life span. Furthermore, rapid technological change induces more and more critical events during the adult’s life span which call for substantial further training or even retraining. But such critical events might also be supply driven, for instance an occupational allergy, burn-out syndromes or just the wish to change or to improve skills. (Schmid 1998 p 17)

Given the likelihood that individuals will experience more ‘critical transitions’ driven by technological change and insecure employment relationships, Schmid argues that:

active labour market policy can help to cope with these situations in providing the supportive institutional environment.” (Schmid 1998 p. 7)

Schmid identifies several criteria for what ‘good’ transitional labour markets should do (p. 10), two of which are to:

1) empower individuals faced with critical life events; the challenge is to increase the capacity of individuals to cope with the (new) risks of social life; just sending in a pay slip for income protection is not enough anymore (Empowerment)

2) support transitions back to the ‘regular’ labour market by providing every incentive to ‘activate’ passive expenditure into effective employment promotion; the challenge is not to ‘make work pay’ at any rate but to ‘make transitions pay’ for keeping or increasing employability. (Sustainable Employment and Income)

The Victorian Qualifications Authority’s proposal for a credit-based system like the credit matrix links to these two criteria. By describing all post-compulsory learning using a common approach, it would make the post-compulsory education and training sector more accessible and more flexible, thus empowering individuals to take charge of their learning pathways and encouraging participation in lifelong learning.

**Credit-based systems**
Credit-based qualifications systems describe units or modules of qualifications in terms of volume of learning and level of complexity. A unit is defined as the smallest part of a qualification which can be separately certificated. In Victoria, a unit could therefore be a VCE unit, a VET module or unit of competency, or a university subject. A qualification is therefore defined as the sum of its units – for instance, a qualification may require 120 points at level 4 and 240 points at level 5.

Scotland, Wales, Northern Ireland, South Africa and New Zealand have or are developing credit-based qualifications systems. There is a currently a project which is examining the
possibility of developing a credit-based system for the entire UK. The European Union’s Bologna Declaration supports the development of the European Credit Transfer Scheme, which would aim to support the mobility of learners across Europe by describing all Higher Education units in a common, standard way. (Andreshak-Behrman, Storan, 2004, p. 9) Each of these systems has as one of its aims to provide seamless pathways for students.

Andreshak-Behrman and Storan usefully apply the analogy that credit-based qualifications systems allows for “mass-customization”, where each student/customer is able to customize his or her learning by studying a range of units or modules to suit his or her particular needs. (2004, p. 27) This does not mean that qualifications are redundant; qualifications offer a coherent learning package. But it does mean that the student has the flexibility to tailor or customize his or her learning as appropriate, either within qualification rules or by choosing units from an assortment of qualifications.

The benefits of such a system are, for learners:
- greater opportunity to negotiate and plan learning programmes appropriate to their needs and preferred mode of learning (including learning in small chunks rather than whole qualifications)
- increased choice and opportunity to enter and exit education and training according to needs and circumstances and retain credit earned to date
- opportunities for changes in direction without loss of credit and with interim certification. (Andreshak-Behrman, Storan, 2004, p. 13)

It was with these benefits in mind that the VQA proposed the credit matrix, as part of a strategy to meet its legislated objectives to:
- ensure and support appropriate linkages between qualifications
- make it easier for people to re-enter education and training and acquire qualifications throughout their lives.

The VQA, in its proposal for a credit matrix, has stated that such a system would aim to:
- make the qualifications system easier to understand
- make it easier to design more flexible qualifications that combine new and different mixes of knowledge and skills
- provide a common and uniform approach to describing qualifications and recording achievement in them
- help ensure that learning already successfully achieved does not need to be repeated. (Victorian Qualifications Authority, 2004, p. 7)

The Australian Qualifications Framework (AQF)
Currently, the Australian qualifications landscape consists of senior secondary certificates, VET certificates, Higher Education qualifications and private company-owned
qualifications, such as those of Microsoft. All, except the latter, are part of the AQF, which provides a nationally consistent framework for how qualifications are to be designed.

The AQF works by providing a set of descriptors for the learning outcomes for each of the qualifications within it. It breaks qualifications up into three sectors: Senior Secondary, VET and Higher Education. The AQF is explicit in emphasising that it provides qualification descriptors only, and does not define the relative complexity of qualifications in terms of levels. (Australian Qualifications Framework Advisory Board, n.d) Indeed, this makes sense, given that many qualifications consist of less complex, introductory units which then progress to more difficult units. Further, while the AQF provides broad guidelines on the volume or learning commitment of qualifications, these are by no means prescriptive.

The AQF is undoubtedly valuable, providing a common over-arching quality assurance framework for the design of qualifications. However, for Victoria, in particular, a system which had a common approach for describing learning contained in units, rather than whole qualifications, and which defined them in terms of level for relative complexity and points for volume, within and across education and training sectors, would help address the need to design more flexible qualifications, create better pathways across qualifications and increase participation in lifelong learning.

The imperatives behind a credit-based system for Victoria

In 2001 the State Government set the target of raising the number of young people in Victoria who complete Year 12 or its equivalent to 90 per cent by 2010. It also set the target to increase education and training participation of young people in rural and regional Victoria by 6 per cent by 2005. (Department of Education and Training, 2003, p. 5) Both of these targets meant that current education and training policy had to be improved in order to better meet the needs of a large cohort of young people.

In 2003 the VQA introduced the Victorian Certificate of Applied Learning (VCAL), which incorporates curriculum that can be drawn from a number of education sectors including VET, Adult and Community Education, and work-place experience. It has enjoyed a growth in student uptake, from 5300 students enrolled in 2003 to over 8000 in 2004. After its first year of implementation, 33 per cent of students said they would have left school (with no qualifications) to look for work if VCAL were not available to them. (VQA, 2003)

VCET, where students can study VET units or modules as part of their VCE, has also proven very popular. In 1999, 13.8 per cent of Victorian students undertook VET qualifications or units as part of their Victorian Certificate of Education (VCE). By 2002, this grew to 24.6 per cent of students. (Nguyen, 2004, p. 14)

However, the design of the VCAL and VET into VCE was complicated by the lack of comparability between senior secondary and VET units. The VCAL, for instance, was
designed to allow young people to create coherent cross-sectoral hands-on programs at one of three levels. Without a common means to compare senior secondary certificates to the stratified VET qualifications, the VCAL design rules were complex and difficult for schools to understand. A common system to describe units in terms of their relative complexity and volume would therefore have made it easier to design qualifications which draw on curriculum from different sectors.

Designing qualifications and creating pathways between different education and training sectors is also very important at the VET – HE interface. Victoria has four of Australia’s five dual sector universities and as such is in a unique position to build better pathways between VET and HE. According to the Ministerial Statement on the Future Directions of Victorian Higher Education:

The potential to establish pathways between these complementary sectors (VET and HE) is clearly underutilized...[but the dual sector institutions present] a unique opportunity for this State to optimise articulation. The Government will take steps to significantly improve cooperative arrangements between TAFE institutes and universities, looking to our multisector institutions to take a leading role. (Department of Education and Training, 2002, p. 11)

However, these institutions still find it difficult to design pathways, such as cross-sectoral nested qualifications with numerous entry and exit points, because of the different approach to describing units in VET and HE. Elizabeth Harman, Vice-chancellor of the dual-sector Victoria University, wrote:

The credit matrix opens up for Victorian dual sectors the possibility of meaningfully measuring the commensurability of learning across qualifications. (2004, p. 8)

Finally, the Government, as part of its Growing Victoria Together statement set goals to:

- increase the percentage of adults taking up education and training and so increase the overall level of educational attainment and literacy levels in Victoria
- make near universal participation in post-school education and training the norm in our society. (Department of Premier and Cabinet, 2001)

However, there are many in the community who have little or nothing to do with formal education and training, and many of these individuals therefore face risks of social exclusion. The Government’s Future Directions for Adult Community Education in Victoria identified specific groups of learners who have little or no previous educational qualifications and who need better access to education and training. (Department of Education and Training, 2004, p. 13) The VQA has found that processes to recognise learning achieved informally, (such as that achieved in the workplace, community or through non-accredited learning programs), are onerous and inflexible. As a result, many
people, particularly those from disadvantaged groups such as Koories, older workers and early school leavers, are discouraged from seeking formal recognition for the learning they have achieved through work, life experience and other training. The VQA is therefore working on a project to recognise informal learning, not by recognising the specific skills attained and aligning them to an existing unit, but to recognise the learning gained. In order to measure that learning, the credit matrix provides descriptors for level of complexity of learning, and points for volume of learning to describe the learning gain. Successful achievement of this ‘informal’ unit will then be able to contribute to part of a formal qualification like one of the General Certificates for Adults.

National trends
There are also a number of trends which are applicable both within Victoria and Australia which point to the value of a credit-based system like the credit matrix.

Firstly, student movement between VET to HE is growing. For example, the proportion of 33–44 year olds in Australia who are degree qualified with a VET qualification grew from 4.7 per cent in 1993 to 11.4 per cent in 2001, and those VET qualified with a degree grew from 2.7 per cent to 7 per cent over the same period. In fact, all age groups showed an increase in the proportion of people with qualifications from several education sectors over this period (Karmel & Nguyen, 2003). In Victoria, the number of students with a Bachelor or higher degree who then complete a TAFE course increased from 10,900 in 2000 to 16,700 in 2002 (Department of Education and Training, 2004).

The decision to study qualifications and units from both TAFE institutes and university is a deliberate one on the part of many individuals, with university graduates citing a need to build industry specific skills as their main reason for study at TAFE (National Board of Employment, Education and Training, 1995, p. 46).

Indeed, Harman observes:

What is needed is a recognition of the particular strengths of the work of each of the two sectors which, when constructed as complementary programs of learning, can provide a wealth of opportunity, in addition to those available in each sector on its own. The fact that so many Australians manage now to combine VET and HE experience at some point in their lives is testimony to the value of mixed learning sets. (Harman, 2004, p. 8)

The Australian Vice-Chancellors Committee, expressed a similar view. In its submission to the Higher Education Review, it wrote that:

The imbalance in qualification linkages needs to be addressed…Varieties of Learning is strangely hesitant about this issue, listing a number of difficulties that, as it
acknowledges, equally apply to VET as to university pathways. An effective set of pathways has to operate on the basis that movement in all directions is worthwhile, overcoming assumptions of a necessary path “upwards” to university. (Australian Vice-Chancellors’ Committee, 2002, p. 57).

Despite this movement, credit transfer between qualifications in VET and HE remains poor. For example, in 2001, only around 2.4 per cent of students received any credit at a Higher Education institution for prior study completed at TAFE. (Department of Education, Science and Training, 2002).

At the moment, the transparency of credit transfer leaves much to be desired, and credit transfer decisions from VET to HE can be inconsistent and, as Wheelahan observes, ‘be based on discriminatory (and often ignorant) attitudes to VET.’ (Wheelahan, 2004) While the same accusation could equally be levelled at VET, the problem partially emerges from the different approaches to assessment between the sectors, and the lack of comparability between the different types of learning. A common system to measure learning could therefore go some way to improving the consistency of credit decisions.

At the national level, inconsistency in credit decisions has been recognised as a problem. Federal Minister for Education and Training, Brendan Nelson, has stated that he will continue his push for a nationally consistent credit transfer system, allowing students to claim credit for studies when moving between TAFE and university (Guerra and Rood, 2004 p. 4).

Given the increasing numbers of students moving between the sectors, demand for better credit transfer at the VET-HE interface is likely to increase. The recent reforms in Higher Education which enable universities to charge up to 25 per cent more than the HECS loading for their courses (Department of Education, Science and Training, 2004b) mean that with increased fees, more students may seek to undertake Diplomas and Advanced Diplomas in TAFE (where fees are upfront but significantly less expensive) and then use that learning achieved as credit towards a Higher Education course.

It should be noted however, that while the credit matrix may help improve consistency in credit transfer decisions, its ability to improve admissions decisions is limited; in some courses student demand for university places exceeds supply of places and in those instances, universities will still need to use a grading tool in order to determine who should be accepted.

Nevertheless, the credit matrix could be useful for admissions decisions where institutions are using bases other than grading for student selection decisions. For instance, in universities, changes to the mix of students’ mode of study to include more part time and external study have led to an increase in the median age of student populations (Australian Vice-Chancellors’ Committee, 2002, p. 7). From 1992 to 2000, the proportion of
non-overseas students who were admitted to a bachelor pass qualification on the basis of senior secondary education shrunk to 56 per cent (Department of Education, Science and Training, 2001, p. 5). Thus, universities can expect demand for Higher Education courses to come increasingly from students who are not coming directly from school.

While a common means for describing learning would be useful for HE, within VET there is also a growing recognition that there is a need to be able to better compare learning across the three education sectors. The Australian National Training Authority, which is responsible for developing VET nationally recognised qualifications, recently conducted a High Level Review of Training Packages. Its researchers wrote:

VET policy needs to acknowledge the reality that alignment between Training Packages and school and university systems is desirable although difficult, and that a more consistent approach to determining the size or dimension of competencies and qualifications would help in this endeavour. (Schofield, McDonald and Leary, 2003) p.13

The senior secondary sector is also facing pressures to better compare different types of learning. Queensland is currently proposing that a new Queensland Certificate of Education be designed that, like VCAL, allows for a broader range of learning options to be recognised as part of the certificate. The draft consultation report found:

There was agreement that if different or new areas of learning achievement were to contribute to the achievement of a Senior Certificate that (sic) it would be necessary to have a method for determining the extent of its contribution. (Queensland Studies Authority, 2004, p. 8)

Similarly, a review of South Australia’s Senior Secondary Certificate is occurring. In both of these instances, as with VCAL, designing a qualification which draws on curriculum from a range of qualifications from different education and training sectors is difficult without some way to compare the size and relative complexity of each unit. The Federal Government’s introduction of Australian Technical Colleges, where students in Years 11 and 12 will be able to undertake a Certificate III in a specific industry as part of their secondary certificate is a further move to encouraging mixed curriculum.

The work completed to date
In 2003 the VQA conducted a statewide consultation on the concept of the credit matrix. The VQA consulted with students, parents, education providers, employers, unions, selection and admissions officers, and qualification developers and interstate and international contacts. Over 80 per cent of respondents were supportive of the concept (VQA, 2003, p. 4). On the basis of this support, the VQA then contracted a team to develop a set of levels, level descriptors and a process for determining volume.
The design has eight levels of complexity, which are designed to apply from Certificate I and VCE/VCAL to PhDs. (VQA, 2004, p. 6) They avoid using sector specific language and describe complexity in terms of the knowledge and skills involved, and the level of autonomy required by the learner in progressively more challenging contexts.

Points to define volume have followed international models, where points equal designed learning hours divided by ten. Designed learning hours are defined as the hours that the unit developer envisages the average student will need in order to successfully complete the unit. This includes class-time, assessment, work-place training, practice, and private study.

The design has been tested in a number of industry and education and training settings, including trials in Information Technology, Business, Engineering, Transport, as well as a project looking at Humanities subjects. These trials have involved testing the credit matrix for consistency, alignment with the AQF, and inter-rater reliability across units from qualifications spanning the entire AQF. So far, the trials have shown the design to be quick and easy to use and to produce results which are consistent and in alignment with the AQF.

The VQA is also currently undertaking a project to test the comparability of the credit matrix design with the New Zealand credit-based system. The possibility of using credit-based systems as a step to determining equivalence of international qualifications could clearly further maximise the portability of qualifications.

In late 2004, the VQA consulted with stakeholders on the design. The consultation showed strong and broad-based support for the design, which was regarded as capable of achieving its aims. As with the consultation on the concept, some of the strongest support came from students and parents, who saw its ability to create a ‘common language’ for qualifications to be of great benefit (VQA, 2005, p. 11). The credit matrix’s levels and points were seen as readily understandable and its potential to make it easier to plan learning pathways was welcomed.

Education providers observed that the credit matrix could help with qualification design (particularly at the VET-HE interface). They also observed that while a selection officer and student would still have to have discussions looking at content studied, the credit matrix could provide a good starting point in determining whether a student may be eligible for credit for prior learning, (VQA, 2005, p. 15)

The consultation also produced a range of advice on implementation. Many observed that the success of the credit matrix would depend on HE institutions opting in. Many also observed that the process of allocating points and levels to units would have to credible in the eyes of all the sectors if the credit matrix is to achieve its aims. (VQA, 2005, p. 3)
One frequent comment which emerged from the consultation was that the credit matrix would be better if it operated nationally, thereby maximising portability of qualifications. Given many of the states are facing issues similar to those in Victoria, and given the obvious benefits of a national over a state system, the VQA has kept organisations at the interstate and national level up to date with developments. So far, much of the feedback has been cautiously supportive of the work undertaken.

Consultation and trialling has confirmed that implementation is both a critical and a sensitive issue, especially in terms of the national dimension. The work so far has reinforced the fact that the credit matrix can sit alongside and enhance the Australian Qualifications Framework (AQF) but cannot be an alternative to it; the implications of this require considerably more discussion with key stakeholders within and beyond Victoria, as does the potential for unilateral or multilateral action to implement the credit matrix if consensus on a national implementation proves difficult or time-consuming to reach.

**Conclusion**

The credit matrix has the potential to make the qualifications system easier to understand, to make it easier to design qualifications which draw on different types of learning and to make it easier for students to navigate the pathways between senior secondary, VET and HE. It has the potential to make the post-compulsory education and training system more flexible and centred towards the needs of learners.

Such a system would be of considerable value in Victoria, where it could improve pathways and make those pathways clearer to students. Many of these imperatives apply equally in other states; a national system would therefore be preferable. However, given the sensitivities involved, the VQA will have to move incrementally and consult extensively.

While the challenges of implementation are great, they are, nevertheless, worth addressing. In a context where individuals will increasingly need to participate in education and training throughout their lives, it is important that qualifications systems are structured in such a way as to support and encourage individuals to make transitions between learning and work throughout their lives. Ensuring that the way units and qualifications are described is consistent, transparent and easily compared is a first step in achieving this.
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