

A national skills taxonomy will join-up our tertiary education system – *or will it?*

And where is VETs voice?

[Jobs and Skills Australia](#) is working to develop a National Skills Taxonomy (NST) to enable a more flexible and responsive skills system. The Australian Universities Accord identified the NST as crucial for creating a 'joined-up' education system.

The benefits of a national skills taxonomy

A comprehensive and accurate skills taxonomy lists skills that occupations require. It describes, classifies, and identifies skills like a dictionary.

It lets everyone talk about skills using the same words. People looking for a job or a better job, employers looking for employees or contractors, companies outsourcing work, freelancers marketing their skills, career development, and career changes. Employers use it to audit their workforce's skills, quickly match candidates to job openings, find internal candidates for projects, and identify skill gaps between a person and their dream job.

It can also improve labour market information (LMI) because existing LMI is presented as occupations. A skills taxonomy links skills and occupations to translate labour market data into skills terms. This helps because perceived skills shortages are about specific skills, not numbers of people or their qualifications. Filling skills gaps is then more targeted and efficient with training dollars.

A well-designed and maintained skills taxonomy will **identify cross-job** (transversal) skills. If I want to change careers, I can find jobs that use my skills and determine the "gap" training rather than starting from scratch. Thus, it promotes occupational mobility and lifelong learning.

National/regional skills taxonomies reach into the **entire supply and demand skills ecosystem**.

For example, I'm working with UNESCO to profile 60 000 working-aged refugees' skills for immediate employment and future pathways into education and training using the European Skills, Competences, Qualifications, and Occupations (ESCO). I understand its value and necessity.

My vote is 'aye' but **not to enable a joined-up tertiary system**. This is misguided and naïve.

A joined-up tertiary system is not a priority for any skills taxonomy to date.

- Europe's ESCO is primarily to support job mobility across Europe and includes skills, competencies, qualifications and occupations ¹
- America's O*NET is the nation's primary source of occupational information, a basis for their Career Exploration Tools and a valuable assessment instrument for workers and students looking to find or change careers ²
- Singapore's Skills Taxonomy was developed to systematically define, organise and communicate the most relevant clusters of in-demand skills and to provide clarity and structure around the skills required for the workplace ³
- The UK's Nesta aims to address skill shortages and help workers and students learn more about the skills they need and the value of those skills ⁴

¹ [What is ESCO? | ESCO \(europa.eu\)](#)

² [O*NET OnLine Help: O*NET Overview \(onetonline.org\)](#)

³ [sdfc-2023.pdf \(skillsfuture.gov.sg\)](#)

⁴ <https://www.nesta.org.uk/data-visualisation-and-interactive/making-sense-skills/>

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Is an NST the best thing for Australia and what primary problem is it attempting to solve?

1 Will the NST join-up tertiary education sectors?

Australia could use a more integrated tertiary education system. Students trying to maximise credits when transitioning from VET to HE face institutional barriers with little agency and nil advocacy. Few enjoy this negotiation, and failed attempts waste training and education resources. It makes no sense to place or maintain VET-HE articulation barriers. The NST Discussion Paper claims a common skills language will lower barriers. I disagree. Institutional culture, esteem disparity, and financial disincentives are more significant barriers than language.

The Discussion Paper and the AUA's suggest that a common skill language can inform curriculum design for both sectors and in this manner can connect the two sectors. I disagree.

A skills taxonomy helps skills supply, no doubt. It aids the design of training packages, academic curricula, learning and assessment, micro-credentials, organisational learning and development, and adult community education. .

But universities have trouble aligning skills to curriculum/syllabus, as shown by the decades-long VET (*skills in context of occupations*)-to-HE articulation challenge. A common skills language will not help. The decommissioned Australian Skills Classification (ASC), (the precursor to the NST developed to offer a common language) was criticised because *'its strong alignment to ANZSCO and competency-based skills definitions makes it challenging to apply in education contexts'*. The Discussion Paper does not identify where this criticism came from. Figure 1 is an excerpt from the AUA and appears to be positive about possible skills-curricula alignment. It's hard to believe the criticism would come from the competency-based VET sector. The Discussion Paper quotes 14 times, 'limitations hold it back' as the unelaborated explanation for the ASC decommissioning.

I've inspected the ASC, it needs improving however I'm not sure the criticism warrants starting again. The ESCO and O'Net are competency-based and references occupations. Skills are defined this way because 16.6 million working-age people and 1 million employers expect to be able to do things, competently, with said skills. Making the NST look like curricula seems like an attempt at supply driving demand which then limits the NST's utility for the remaining stakeholders in our skills ecosystem. Qualifications without clear vocational pathways should always be part of universities' mission but the NST is an important part of the Australian skills reform agenda and we must work hard to connect skills demand to 'educational contexts'. And when we say 'skills demand' we mean the human capital needs of the Australian economy. The VET sector has less challenges in this regard.

VET has been aligning skills demand with skills supply since the early 90s, and since 1995 the National Centre for Vocational Education Research (NCVER) has been measuring employers' views, satisfaction and usage of the VET system⁵.

The potential use of the ASC as a tool in curriculum design

JSA is undertaking a project to link Australian university curricula to the ASC and identify the specific skills taught in higher education qualifications. Utilising pre-trained natural language processing (NLP) models, higher education curriculum data is analysed alongside the ASC, with the models able to identify similarities between university curricular data, unit descriptions and learning outcomes, and the skills listed in the ASC – an otherwise highly manual process that would not be able to keep pace with the speed of curriculum change.

Based on the degree of similarity, skills determined to be relevant in the curriculum can be aligned and mapped to the ASC. This tool has the potential to assist providers in developing courses aligned to skills need and providing RPL.

Figure 1 AUA proposal on how an NST aids curriculum design

⁵ [Employers' use and views of the VET system \(ncver.edu.au\)](https://ncver.edu.au)

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A quick synopsis of the VET system's products for the uninitiated. The Discussion Paper does not reflect an in-depth working knowledge of the VET sector.

Sector-based **training packages** are a type of skills taxonomy with units of competencies and skill sets. These are packaged to meet different credentialing needs. They are called 'training package products' and are openly available on training.gov.au. There are:

- ✓ 15 222 units.
- ✓ 1 608 skills sets.
- ✓ 1 174 qualifications ranging from Certificate I through to Graduate Diploma

Unlike university program components, units are already inherently **portable** across all Australian VET institutions.

Genuinely modularised. VET Students can enrol and be awarded in singular units or groups of units called 'skill sets'. These are recognised and valued by employers.

Each training product has an **ASCED** classification, an **ANZSCO** Identifier Code, and a unit-allocable notional duration (**volume of learning**). For people that know VET training products, AQF leveling can be approximated at unit level also.

Responsive to skill needs. Jobs and Skills Councils (JSCs) conduct national scans for skill needs and update training package. However, the fast-changing workplace makes it hard for this system to keep qualifications current. However, some JSCs offer promising solutions. A well-designed and maintained NST could speed up JSC scan design to utility or in fact, it could distract from training package development. Implementation is key.

The VET sector may ask: how will an NST connect our tertiary education system when VET's skill-based system does not? How will the NST reduce historical barriers to articulation? How will the NST win HE respect that VET currently lacks?

The AUA suggests credit points to join up our sectors to "*provide greater transparency about what students have learned and the volume of learning*". If an open-sourced national qualification repository detailing learning outcomes is not transparent then I don't know what is, certainly not university syllabi. Considering a credit point system alongside the NST seems pointless. Additionally, many countries' credit point systems transpire as barriers for RPL. RPL doesn't recognise hours of learning, it recognises existing competency no matter how it was achieved. If a credit point hour system for recognition is introduced what happens to those who would like to be recognised for experiential learning? Who assigns and apportions credit point hours to learning achieved through 20 years working as an HR officer, project manager or business owner?

I support the NST and ASC, but not to join-up the tertiary system. An NST empowers occupational mobility, whether you are a new Australian, career navigator, veteran or experiencing redundancy.

A point in case.

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Armenia has adapted the ESCO to its labour market. A mobile app helps people self-assess and construct skills profiles with career assistance. The translated and culturally adjusted ESCO connects to digital jobs boards and training and education offers as the nation builds a digitised skills ecosystem. Refugees may need to transition to new occupations because some are not available to them. Armenia seeks to fill green technology and ICT skills gaps. The application helps match job seekers' skills including transversal skills to job and training offerings. Real-time data tracks skills matches and gaps. Individuals find work that matches their skills and aspirations, companies find skilled and enthusiastic workers, and the nation sees real-time labour market information data in skills language. UNESCO will help link ESCO to VET credentials to optimise formal recognition.

2. The NST can **assist the process of RPL** but not as the Discussion Paper suggests

As an international RPL expert and researcher, I must comment on the Discussion Paper's assertion an NST will aid RPL. It can, but not as the paper suggests. It will not help articulation because A/ establishing a common language is not the hurdle. B/ I doubt universities will incorporate skills language into their curriculum.

The Paper claims an NST can 'reduce the burden on workers when seeking RPL through clearer articulation of the skills carried out on the job'. In the context of VET RPL, this is erroneous and indicates a misunderstanding of training package language (skills in context).

My master's study showed that without guidance people struggle to map training package language to their job experience. Mapping skills language without context is more burden not less.

But it can broaden the utility of RPL. With guidance, the *NST has two advantages over training packages*: transversal skills and the selection of 14 000 skills (in the case of the ESCO) without limitations of qualification, training package, or provider scope of registration. This self-assessment is formative, a skills audit, not summative. Not an RPL assessment, but an empowering scoping activity *before* RPL. Australian RPL (or in fact the Australian workforce) needs it because we lack objective guidance for individuals on why, what, and how RPL might benefit career navigation.

3. The NST will assist career navigators and new Australians - a dire need in our tertiary education system.

If the NST is built for individual utility it is an excellent tool for career navigators as the O-Net is. It must connect skills to occupations, must include comprehensive transversal skills, it must have clever AI powered self-assessment guidance and include occupations' outlook. Modularised qualifications must link to skills so individuals can fill their skills-gaps.

The NST must consider the utility for skilled migration and new Australians. The discussion paper does not refer to migrants at all. Australia's recently released Skills Migration Strategy seeks to make skills assessment more efficient and reduce skills mismatch which is particularly costly within Australia's permanent skilled migration system. The NST could reduce time for skills assessment, open more assessment providers, quickly connect new Australians with jobs commensurate with their skills and identify skills gaps as the above case illustrates.

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4. The NST replaces a decommissioned Australian Skills Classification (ASC) with limited explanation.

The NST Discussion Paper quotes 14 times, ‘limitations hold it back’ as the reason for the decommissioning of the ASC but offers no report or analysis that elaborates or provides a rationale. I attended the workshop, and no further explanation was given. A one liner offers ‘uneven levels of skills detail’ limits utility however, I counter that uneven levels of details are an inherent characteristic of both the ESCO and O’Net and our workshop discussion group decided that it is in fact it is a necessary characteristic for the NST. As aforementioned the Discussion Paper criticises the ASC as having too strong alignment to ANZSCO and competency-based skills definitions. This seems non-sensical for the reasons outlined above.

In conclusion, the NST must not replace training packages, nor relegate training packages to only regulated occupations. Training packages need work, units need to be less prescriptive, contain non-assessable ‘range statements’ and embed transversal skills. Quality assurance requires that assessment validation is tightening up.

National Skills Taxonomy Discussion Paper

National Skills Taxonomy Discussion Paper

DEWR Consult hub

Response received at:

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- 1 Do you agree with this Privacy Statement?
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- 7 Please select how you would like to provide a response.
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Not answered

9 Lessons from existing taxonomies

Key benefits. Currently, Australians and new Australians have no place to receive objective quality career guidance. Up to date labour market information for career navigators. O'net online can guide career navigators and job seekers in identifying their passion and skills (including transversal) and selecting occupations with a bright outlook. Ideally, the NST can then identify users' skills gaps and connect with education/training offerings that are modularised. Ideally, users can download and print their skills profiles. O'net self assessments are brilliant! Users can filter by inputting the length of time they have to upskill when finding occupations that suit their existing skills.

Key benefit. Real-time labour and job market information. See the O'Net.

10 Potential use cases for a National Skills Taxonomy

Added value - must be useful for organisational learning and development so must be able to connect with occupations but identify transversal skills that go across disciplines to inform efficient human resource management.

Added value - Must be able to educate employers on skills-based recruitment.

Overarching vision - to inform the entire skills ecosystem - demand and supply. NOT to join up the VET and HE sector.

Added value for educators - identify transversal skills in occupations. For VET this would be handy to develop a 'bank of transversal skills' that could be packaged into qualifications and go across all training packages.

Added value - for individuals. Must inform career navigators and job seekers with up to date job market information. What occupations are in demand, what skills are needed, how can I get the skills.

The potential unintended consequence is that the NST is not used because it is not resourced with training on how to use, especially for NGOs and employment services.

Added value for the nation's visibility into skills shortages/needs/supply. See the O'net on how it is utilised and built on real-time job and labour market activity. It can also enhance the quality of labour market information (LMI). Much of existing LMI is presented at occupation level. A skills taxonomy that connects skills and occupations enables the translation of labour market data into skills terms. This is helpful, for example in the case of skills shortages when the nature of shortages is in terms of specific skills rather than in terms of numbers of people, filling skills shortages can be more targeted and therefore a more efficient use of the training dollar.

11 Building a National Skills Taxonomy – design considerations

Alignment with other taxonomies

Granularity

Skills connecting to occupations

Comprehensive and descriptive transversal skills

Not proficiency and levelling - skills definitions need to use words that inherently describe leveling. eg. use words from Blooms taxonomy for cognitive skills and Australia's Core Skills for Work framework, Digital Skills Framework, the ACSF etc.

12 Building a National Skills Taxonomy: Implementation considerations

the NST should be digitally connected to the jobs market to be continuously updated. See the O'net. Skills suppliers should be responsible for updating offerings.