

Skills Insight Jobs and Skills Council

Response to the Jobs and Skills Australia

National Skills Taxonomy Discussion Paper

August 2024

Introduction

The Agricultural Workforce Working Group (now the Agriculture Workforce Forum) convened by the Minister for Agriculture in 2023 identified a national agriculture taxonomy as a priority for their industries.

Skills Insight Jobs and Skills Council provides industry stewardship for the agribusiness, fibre, furnishing, food, animal and environment care industries. In this capacity, we support the concept of developing a national skills taxonomy (NST).

Discussion questions – Lessons from existing taxonomies

1.1 What are the key benefits and/or limitations with existing skills taxonomies?

1.2 What features from existing skills taxonomies are important to retain or address in a new NST?

The stakeholders that Skills Insight works with have expressed a variety of views on the systems identified in the discussion paper as existing taxonomies. The consistent theme is that the existing taxonomies are not providing enough value to industry, and that while each has a specific purpose, a higher level strategic approach is needed, focused on jobs and skills, and industry needs, rather than the specific needs of statistical, treasury, education and research bodies for which the existing tools have been developed.

While extremely useful for organising and displaying complex, intersectional data, existing taxonomies are developed and evolved without one distinct 'owner', meaning that they are, or become, misaligned with one another. Such taxonomies include the Australian Skills Classification, the Australian Qualifications Framework (AQF), the National Training Register (training.gov.au), ANZSCO, and ANZSIC. For Jobs and Skills Councils and other data-using organisations that conduct workforce planning, these taxonomies would be more useful if there were greater harmonisation between them. Qualifications on the National Training Register each have a determined AQF level (relative to the complexity of knowledge and skills required to competently perform tasks in the workplace) and an intended ANZSCO occupational outcome; however, the AQF level of the qualification is often misaligned with the skill level of the ANZSCO occupation and its detailing of tasks (partly because the ANZSCO is infrequently updated). This misalignment entails difficulties in establishing a profile of industry skills, as well as education and training needs for certain occupations, including for upskilling and reskilling existing workers. It also creates barriers for attracting new workers to industries and occupations where there may be barriers to entry due to misconceptions of the skill level and credentials required. Greater harmonisation

between taxonomies would support the development of tools, such as the National Skills Passport, which support workforce attraction, lifelong learning, upskilling and reskilling (including skills/training gap analyses).

The discussion paper notes that ANZSCO and ANZSIC are well established, but they tend to serve purposes intrinsic to government statistical requirements, and are blunt and often incomplete and inaccurate frameworks, potentially leading to the erroneous identification of trends and misguided strategies for addressing industry needs. Similarly, ASCED is useful for classifying information for education and research purposes, but cannot be easily integrated with other taxonomies because it lacks information on skills and target occupations, which makes it of limited use for education and employment pathways mapping and other policy and strategy areas. The National Training Register (Training Packages) describe in detail occupations and roles, and the methods of identifying the skills needed, but have had their potential use limited by applying standards and levels of detail required for education, funding and regulatory decisions, making them more complex and detailed than industry requires. As noted in the discussion paper, they also only cover skills taught through the VET system.

The discussion paper notes that a working NST could identify *“the right skills to support individuals to engage in safe, secure, fairly paid work, and to update and refresh their skills ... At the same time, the evolving population of skilled workers ensures business can function productively and profitably.”* (Discussion paper, p4)

These would appear to be good, general statements of purpose which could be refined to identify the needs of industry in developing a taxonomy. It might also promote new and innovative approaches to taxonomy development, including approaches based on skills rather than occupations or fields of study (as all current approaches include), or more effective tools to demonstrate the transferability of skills and knowledge across industries and occupations.

In this context, the Australian Skills Classification was a laudable but ultimately a limited taxonomy with respect to its usability, but potentially an important first step in the development of a taxonomy that could work. In particular, a NST needs to:

- Undertake deep analysis (potentially a deep learning approach) and not rely on language analysis or simple machine learning
- Include use of data related to safety and productivity
- Identify skills for which competency can only be achieved and maintained through workplace implementation, preferably through treating competency as a staged journey, which requires experience, practice and currency
- Identify industries in which common skills require contextualisation to address safety/risk and productivity requirements

It should be noted that the International Labour Organisation, using extensive research, included in the definition of skills the tacit or implicit elements that can only be ascertained through observation of work performance. It noted that *“the development of tacit knowledge elements depends to a large extent on social learning ... and on experiential learning both in daily life and at the workplace.”* (ILO, Committee on Employment and Social Policy, *Portability of Skills Paper*, GB.298/ESP/3. Geneva, March 2007)

In addition, the Discussion Paper (Figure 1) looks at skills in relationship to the education system, labour market and workplace learning (which we suggest should be re-examined in light of the levels of classroom based learning and recent policy changes on mandatory work placements) and does not include the elements of Social, Communication, Personal behavioural/ethical, and

cognitive/problem solving sets of skills defining competencies identified by the ILO (though the Australian Skills Classification does include 'core competencies' such as problem solving, learning and teamwork). Skills are not just relevant to education system, labour market and professional development.

If workers were to maintain a single occupation within a single, clearly defined industry, there would likely be only limited need for a taxonomy, which would be unlikely to provide value for the cost of development. The experiences of the last few decades illustrate that the single occupation/industry career is likely to be the exception rather than the rule (February 2024 ABS data shows that 57% of people have been employed in their current job for less than five years), which would seem to add to the potential value for industry participants from a properly developed system designed to achieve defined purposes.

In this context, the ILO observation on portability of skills is relevant:

“Workers need to have relevant and verifiable skills in order to gain access to job opportunities and to adjust to changing labour markets

*(a) employable skills which can be used productively in different jobs, occupations, industries; and
(b) certification and recognition of skills within national and international labour markets.”*

(ILO, Committee on Employment and Social Policy, Portability of Skills Paper, GB.298/ESP/3. Geneva, March 2007)

The work to develop a NST can assist in identifying these elements of skills and result in benefit to industry, the community and the jobs and skills system, even if a specific taxonomy could not be appropriately finalised and developed.

As a result, our understanding is that our industries support work on the development of a NST.

Discussion questions – Potential use cases for a National Skills Taxonomy

2.1 Where could an NST best add value for individuals, employers, and educators and how?

2.2 What are the potential unintended consequences or challenges of an NST that will need to be overcome?

2.3 What do you believe should be the overarching vision for the NST?

2.4 What guiding principles should underpin the taxonomy? Are there any non-negotiables?

2.5 How should principles be prioritised if trade-offs are required?

The overarching vision for a NST needs to be focused on adding value to industry participants at all levels, being employers, employees, learners, trainers and educators, enterprise planners, industry policy makers and those working on encouraging priority cohort participation.

Too much work in this area goes awry because of attempts to be all things to all people. In particular, years (decades) of industry attempts to address gaps in the ANZSCO and ANZSIC, which result in data gaps in ABS collections, have failed, and this appears likely to continue because of the importance of current ABS approaches for treasury, infrastructure and regulatory planning. The ABS has what they view as higher priorities than industry needs, and are not prepared to include additional solutions to their current systems, requesting instead that jobs and skills system participants bend to their data.

This has resulted in many industries spending limited resources on the development of industry-specific data, which is then largely ignored because it is not an official or replicated cross-industry data collection, and is seen to be biased due to it being industry-driven.

A national taxonomy needs to address this issue, and to focus on the things that can be achieved by a taxonomy that cannot be achieved by existing products. It can become an addition to, rather than a replacement for, existing categorisations; although some consideration can be given to how the National Training Register might provide one of the bases for the taxonomy, and be broadened to incorporate occupations and pathways that are generally outside of VET (e.g. for Veterinarians) because there is no current standardised source for this information given the variation in higher education courses.

In Table 1 of the discussion paper, there is an outline of potential use cases for a NST and of the current ANZSCO, AQF and ANZSIC. We would question the actual abilities of ANZSCO, AQF and ANZSIC to effectively meet the use cases as outlined in this table and would question the evidence that they are currently working in the modern environment, even if they may have been more valuable in the past. The discussion paper specifically refers to ANZSCO as not exhaustive, and we would add the observation that it is not adaptive enough to cater for emerging occupations and industries (for example, pet care and management).

There may also be a question about whether a NST needs to be comprehensive across all skills, or whether there are areas where a NST would not add value. In particular, a NST may not be that useful to self-regulated and regulated professions with existing detailed standards and barriers to entry. This may be a trade-off in the development of a NST.

A skills-based taxonomy could be very useful for: business planning, especially for emerging industries; identifying areas of complexity and contextualisation; improving worker safety and industry productivity; developing skills priority lists; and specific migration policy development, particularly skilled and regional migration. It could be useful for job seekers, industry, training organisations, and government – though only if it is accurate and comprehensive, which the Australian Skills Classification was not. More and broader consultation will be needed to guide the development of the Vision and the guiding principles, based on developing a new taxonomy rather than adjusting current taxonomies (with the possible exception of the National Training Register).

Discussion questions – Building a National Skills Taxonomy

Design considerations

3.1 What should an NST look like? Considerations include:

- Definitions and nomenclature
- Structure (hierarchy, skill groupings and typologies)
- Granularity
- Information attached to each skill
- Proficiency and levelling
- Alignment to other taxonomies

3.2 Are there any additional features or key considerations for an effective design of the NST to support its use? Considerations could include supporting materials, usage guidelines or technological solutions that will enable or better facilitate NST usage.

One of the criticisms of the National Training Register (Training Packages) has been the volume of Qualifications (occupations) and Units of Competency (tasks within occupations) and the level of duplication across these. It is therefore interesting to examine the international comparisons, which seem to align fairly closely with the National Training Register given the differences in coverage of the systems, and the size and variability of Australia which adds so many more opportunities

for different types of industries than exist in many other countries in the world (The US and China seem to have the only real equivalent level of variability).

Skills Insight also noted that some existing international systems include experience requirements and workforce characteristics, which would add value from a user perspective if they could be included (we have also suggested this in relation to the potential National Skills Passport). For example, The U.S. Bureau of Labor Statistics presents data on Occupational Requirements, which, in addition to training and experience, includes physical demands, environmental conditions, and cognitive load. These variables would be helpful for potential labour market participants, notably people with disabilities.

Skills Insight would suggest that in looking at the connections between skills and education within a taxonomy, consideration should be given to all forms of skills acquisition, including formal and informal education, experience, workplace characteristics, safety and productivity requirements (including regulation) and industry certifications.

Granularity of detail is going to be important as an available option for some purposes, however this needs more careful consideration. This is another area in which there may be a benefit to taking a more skills-orientated approach rather than an occupation approach. In some cases, it is possible that learners acquire sufficient skills and knowledge to undertake multiple occupations (especially where broad fields of education are implicated). In other cases, skills that appear equivalent may not always be so, as can be seen, for example, in Medical Physics where radiation oncology and diagnostic imaging have extremely different skills and standards for the same occupation. In our context, the same may be said of someone working on a farm and looking after cows, sheep, horses or crocodiles, all of which have very different welfare needs and safety considerations. Accordingly, granularity is important, as well as establishing contextual overlays, for example a transferability rating for skills to mitigate the risks of inappropriately 'qualifying' people for performing tasks for which they do not have the required level of exposure, experience and knowledge.

If a more skills-based approach was taken, the rapid and flexible updating of the taxonomy could be based on the work of Jobs and Skills Councils, and specifically identified formal professional bodies that undertake certifications through formal and validated assessment approaches.

Discussion questions – Building a National Skills Taxonomy

Implementation considerations

4.1 What are the most appropriate ongoing governance arrangements for the NST and why?

4.2 How should the NST be updated and maintained? Considerations include:

- How skills are identified for inclusion, including initial identification and validation
- The rate at which update should occur
- The development of data quality standards or a data quality framework

4.3 Which storage or dissemination methods / infrastructure would be most valuable for enabling effective use of the NST?

The NST, if developed, should be governed through Jobs and Skills Australia and supported by the JSCs and other identified bodies for skills not currently being covered by JSCs. This would ensure that processes would be independent of other systems built for purposes outside the jobs and skills system, while potentially allowing for rapid and flexible updating of the NST.

As noted previously, the Australian Skills Classification was based on a sound idea. We recommend that the lessons from the Australian Skills Classification be utilised, particularly in giving greater consideration to the extensive consultation work undertaken to develop the National Training Register and by other certification bodies with validated assessment, as well as incorporating data from Work Safety Australia and equivalent state bodies, and productivity data.

Given the likely time that will be taken to create a NST, consideration of infrastructure and dissemination should take place towards the end of any project to ensure the latest technological developments can be incorporated.

To ensure the continuing value of a NST, further consideration would need to be given to how and how often it would be updated. If it utilises and remains consistent with the ANZSCO, it would rarely be updated, even when there are identifiable skills changes or augmentations; alternatively, updating a NST as appropriate would entail it begins to diverge from the ANZSCO. This is already an issue when attempting to align the ANZSCO and AQF qualifications because the latter are regularly updated on industry advice so that they remain current and reflect emerging skills. Creating a NST without due consideration of updates may serve to undermine one or other of these existing taxonomies and further complicate the purposes for which it is intended to be used.

Thank you for the opportunity to contribute to this work. Questions about this submission or further information from Skills Insight can be obtained from Andrew Cameron acameron@skillsinsight.com.au