Australasian Council of Deans of Arts, Social Sciences and Humanities

National Skills Taxonomy

Executive Summary

The Australasian Council of Deans of Arts, Social Sciences and Humanities (DASSH) is broadly supportive of a National Skills Taxonomy.

DASSH represents more than 250 senior leaders in the arts, social sciences and humanities from 44 universities in Australia and Aotearoa New Zealand. This submission is the product of multiple consultations with leaders from a diverse range of institutions:

- The Group of Eight
- Regional University Network
- Australian Technology Network
- Innovative Research Universities

Our members see a NST as an opportunity to:

- Recognise interdisciplinarity
- Help educators and students identify and translate cognitive and higher order skills
- Capture the full suite of skills needed to ensure good economic outcomes, regional security and a healthy democracy
- Increase pathways that enable lifelong learning and employment mobility
- Improve mobility between VET and higher education
- Meet actual employer demand for workers who can think critically, analyse and cope with change
- Deliver on the critical need for Australia to identify and apply new knowledge

However it is critical that a NST avoids:

- Failing to capture the full suite of skills needed to ensure Australia is secure, healthy and democratic
- Failing to measure the level of attainment associated with different types of education
- Being used as a tool for shortsighted policy decisions focusing on skills shortages alone while ignoring sovereign capabilities

- Failing to place emphasis on the interdisciplinary nature of skills and their application

It is critical that a NST would accurately capture and reflect the full spectrum of skills needed across the broad scope of Australia's job market and education system. It is vital that diverse and complex skills are recognised, classified, measured and communicated accurately.

The arts, social sciences and humanities deliver graduates with complex skills and knowledge. Those skills have been repeatedly shown to be in high demand among employers world-wide. But these can be difficult to define precisely and categorise appropriately.

Any skills taxonomy must reflect and feed this demand with appropriate ways of defining and measuring these capabilities.

These skills include but are not limited to:

- Communication
- Creative thinking and analysis
- Critical and analytical thinking
- Research
- Writing
- Close reading
- Problem solving
- Understanding processes of change
- Data collection
- Data analysis
- Question assumptions and applied logic
- Communication of complex research findings
- Ability to overcome bias
- Systematic attention to detail
- Cultural competence
- Online safety
- Understanding democracy, justice, fairness, equality and the rule of law
- Intercultural understanding
- Critical understanding of the self
- Critical understanding of the world
- Communication in languages other than English

These are trans-vocational cognitive and comprehension-based skills which in various combinations are critical for many jobs across every industry, though some more than others. Each of these skills can be assessed, measured and reported on by arts, social sciences and humanities educators.

It is absolutely critical that the vast distinction between the levels of attainment and applicability are accurately captured – both for the purposes of employers and educators assessing prior learning.

We recognise the need for graduates that have the vocational skills associated with worker shortages and fully support the development of a NST that will enable greater workforce mobility and uptake of education to meet these needs.

Australia's sovereign capabilities must also be given consideration. The skills and knowledge associated with regional diplomacy, national security and policy development and implementation in heath, ageing, climate change, housing affordability and artificial intelligence must also be captured, measured and valued. These are most commonly taught by arts, social sciences and humanities educators.

Humanities, Arts and Social Sciences in context

Humanities, arts and social sciences disciplines have higher enrolment numbers than any other discipline combined. In 2022, these disciplines enrolled a total of 28 per cent of all undergraduate students in Australia and 22 per cent of all postgraduate students.

In 2022, around 37,000 remote and regional students and almost 36,000 students from low-SES families studied humanities, arts and social sciences courses. Nearly 6,000 First Nations students and around 36,000 students with a disability were also enrolled.

Our research shows that the humanities, arts and social sciences deliver direct economic benefits to the Australian economy and bring with them huge social benefits.

Graduates of arts degrees go into a long list of important and diverse careers, all of which have an important role to play in a healthy, happy and well-informed democracy.

In Australia:

- 90 per cent of humanities, culture and social sciences graduates are in full-time employment three years after graduating
- Their salary is on par with other graduates at $82,000
- Employers have a 91 per cent satisfaction rate with humanities, arts and social sciences graduates' foundational skills

Lessons from existing taxonomies

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

There are pros and cons associated with conceptualising skills through taxonomies. Below we examine the approaches of the Singapore Skills Framework and the *OECD Future of Education and Skills 2023* framework.[1]

The *OECD Future of Education and Skills 2023, Conceptual Learning Framework* says the OECD Learning Compass 2030 distinguishes between three different types of skills:

- Cognitive and meta-cognitive skills, which include critical thinking, creative thinking, learning-to-learn and self-regulation
- Social and emotional skills, which include empathy, self-efficacy, responsibility and collaboration
- Practical and physical skills, which include using new information and communication technology devices

“Cognitive skills are a set of thinking strategies that enable the use of language, numbers, reasoning and acquired knowledge. They comprise verbal, nonverbal and higher-order thinking skills. Metacognitive skills include learning-to-learn skills and the ability to recognise one’s knowledge, skills, attitudes and values.”

Skills for 2030 notes that as computer technologies have displaced labour in routine tasks, they have also created new employment opportunities for workers with non-routine cognitive skills, such as creativity, and social and emotional skills.

The Singapore Skills Framework defines skills under two broad categories:

- Technical Skills and Competencies, which comprises of occupation/job specific knowledge, skills and abilities that a person needs to have to perform the various tasks
- Critical Core Skills, as identified for each job which are employability/transferable skills and competencies

This framework identifies a sector called ‘critical core skills’ and categorises them as either interacting with others, staying relevant or thinking critically. Under these categories are things like learning agility, global perspective, influence and adaptability for example.

[1] Skills Future. (2024). *Skills Frameworks*; OECD. (2019). *OECD Future of Education and Skills 2030: Conceptual Learning Framework: Skills for 2030*.

Each of these titles are further described, for example: “Influence behaviours, beliefs or attitudes in order to achieve desired outcomes and solutions” and then a proficiency level is assigned – either basic, intermediate or advanced.

From there a ‘knowledge/ability item’ is identified, for example “Emotional intelligence dimensions” or “Adapt personal style to demonstrate empathy and enable the communication of desired goals” or “Identify stakeholders and networks that are critical in meeting desired goals and objectives.”

There are benefits and limitations associated with each of these examples. The OECD takes the approach of heavy emphasis on cognitive and meta-cognitive skills which from a discipline perspective is both effective and useful. We know that these are the skills that are currently most valuable to employers and that they will become more so in the future.[2]

The Singapore Skills Framework meanwhile has taken a granular approach to identifying and describing ‘ability items’, which can be useful. However in many cases these are ill defined, difficult to measure or apply and in this case are applied within the context of a highly technical framework.

The framework is only applied to 30 areas of employment such as accountancy, built environment, work health and safety and hotel and accommodation services for example. This highly vocational approach appears rigid and does not make consideration of national capabilities, civic values or knowledge production which the OECD’s approach does.

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

It may be useful to combine elements of both approaches by the OECD and Singapore in the context of a NST. This must be done with a view to placing emphasis on what we know are the emerging needs and expectations of employers around the world.

As mentioned above, analytical thinking and creative thinking remain the most important skills for workers in 2023 according to the World Economic Forum (WEF).[3] This is also reflected in other key documents including the Employment White Paper and the Intergenerational Report.[4]

The Future of Work Report, which is based on 803 companies who employ more than 11.3 million workers, noted that:

[2, 3] World Economic Forum. (2023). *Future of Jobs Report 2023: Insight Report*.
[4] Australian Government. (2023). *Working Future: The Australian Government’s White Paper on Jobs and Opportunities*; Australian Government. (2023). *Intergenerational Report 2023: Australia’s Future to 2063*.

- Strong cognitive skills are increasingly valued by employers, reflecting the growing importance of complex problem-solving in the workplace
- Analytical thinking is considered a core skill by more companies than any other skill

Top 10 skills of 2023:

1. Analytical thinking
2. Creative thinking
3. Resilience, flexibility and agility
4. Motivation and self-awareness
5. Curiosity and lifelong learning
6. Technological literacy
7. Dependability and attention to detail
8. Empathy and active listening
9. Leadership and social influence
10. Quality control

Eight of the WEF Top 10 skills are developed most thoroughly and explicitly through the study of the humanities, arts and social sciences and therefore need to be explicitly acknowledged, otherwise we risk developing a workforce deficient in such vital areas.

It is important to note that each of these skills can be assessed, measured and reported on by humanities, arts and social science educators and are increasingly being explicitly articulated within the learning outcomes for humanities, arts and social science degrees.

There are a number of core aspects of each of the approaches taken by both Singapore and the OECD that must be discarded, adopted or referenced in the development of a NST.

1. Adopt the OECD's emphasis on cognitive skills and knowledge and foreground the core foundational skills that underpin jobs in all industries.

2. As in the case of the *Skills for 2030* report, place emphasis on the changing nature of work and the role that non-routine cognitive skills, such as creativity, and social and emotional skills play in the context of emerging artificial intelligence technology.

3. Acknowledge and foreground the role of knowledge as the OECD has done. It is critical that any government policy seeking to favour or limit the study of certain fields reflects both skills *and* knowledge as we will elaborate on later in this submission.

4. Avoid the terminology of 'soft skills' used by the OECD as it diminishes the value and relevance of cognitive skills in the context of a skills taxonomy.

5. Reference the extensive work already done in identifying the many core cognitive skills outlined in the SSF.

6. Adopt the approach of measuring the level of attainment associated with each skill as done in the SSF – basic, intermediate and advanced. These tiers may not be adopted verbatim however a tiered approach to skills mapping would be useful as we will elaborate on later in this submission.

Potential use cases for a National Skills Taxonomy

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

The NST provides the opportunity to recognise interdisciplinarity

It is in the best interests of Australia to have a tertiary education system and NST that adequately values all disciplines. It is key to our national interests that we recognise that critical problem-solving and world-building is dependent on collaboration between the humanities, arts and social sciences, STEM and other disciplines.

Collaboration ensures a holistic approach to complex problem solving in social, technological, environmental and other contexts. Our combined understandings drive innovation, sustainability, effective communication, sound policy and ethical practice.

A sector in which one domain is privileged over another is at risk of developing a rigid, one-dimensional workforce. The NST and, critically, how it is applied, must help cultivate a workforce that is agile, adaptable and has the capacity to apply a wide range of skills across various contexts.

The NST helps educators and students translate skills

DASSH members see value in the proposed NST for humanities, arts and social sciences educators as well as students and parents.

In devising and executing the NST, Jobs and Skills Australia has the rare opportunity to define and measure skills that have hitherto been somewhat undefined and poorly valued by policy makers.

When our members engage with students and their families at university open days the translation of a degree to a set of skills and a vocational outcome is important to them. There is a common misconception that undertaking an arts degree for example has poor outcomes in both cases.

You can read more about the excellent employment outcomes of arts graduates in our recently released Impact and Outcomes of Humanities, Arts and Social Sciences in Australia and New Zealand reports.[5]

When it comes to skills however, the translation is less clear within the arts, social sciences and humanities and this has drawbacks for universities seeking to convey the full suite of skills, both domain specific and transferable associated with the arts, social sciences and humanities.

Having a universal language and taxonomy that could be used to clearly define and also measure the skills associated with these disciplines would enable educators to clearly spell out to those students and parents that not only is this the set of skills that a student will graduate with, but that they translate to jobs in an incredibly diverse and extensive list of well-paid and secure occupations with excellent career pathways and opportunities for lifelong learning.

Clearly defining the skills that are obtained within a degree will enable all students to make informed decisions about what to study.

It will make it easier for first in family and non-traditional students to identify the outcomes associated with any course or degree. It will drive greater participation among underrepresented cohorts who often face additional barriers to studying and must weigh up the costs and benefits of obtaining a degree.

Mobility across sectors/degrees

This leads into the third major benefit of a NST. Mobility across sectors is highly valued by both students, employees and government. Where there are shifting and competing workforce demands heavily influenced by technological advancement the ability to clearly define and measure the skills associated with an education in the arts, social sciences and humanities is critical as these remain by far the most transferable of all skills.

In identifying the skills associated with these disciplines this will be made clear to both students and policy makers seeking to guide student preferences.

It will also enable policy makers to understand and refer to the full suite of skills associated with the study of these disciplines. With workforce mobility and lifelong learning central to the recommendations of the Universities Accord there are massive benefits for policy makers in being able to define these skills and make decisions that ensure they are funded and valued accordingly.

[5] DASSH. (2024). *Impact & Outcomes: Humanities, Arts and Social Sciences in Australia and Aotearoa New Zealand*.

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

The potential unintended consequences of a poorly conceived or executed NST could be serious. The misidentification and poor capturing of skills could lead to significant gaps in Australia's national capabilities and knowledge.

It is critical that a NST avoids:

1. Failing to capture the full suite of skills needed to ensure good workforce and economic outcomes as well as regional security and a healthy democracy.

2. Not delivering on the critical need for Australia to identify and apply new knowledge.

3. Failing to measure the level of attainment associated with different types of education – for example advanced skills associated with a PhD as opposed to the basic skills associated with a microcredential.

4. Seeking to identify the full suite of cognitive and transferable skills within a purely vocational context.

5. Failing to place emphasis on the interdisciplinary nature of skills and their application.

6. Not being agile and responsive to the evolving jobs market and evolving skills needs of a future economy.

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

Our vision for a National Skills Taxonomy is one that:

1. Must be used to serve the true national interest not just short-term economic interests

2. Should capture all skills not simply vocational skills

3. Must serve a future workforce and the future needs of Australia

4. Be dynamic, responsive and adaptable

5. Is a tool that works powerfully within its identified context while recognising the boundaries of its remit

6. Is not used as a tool to guide student preferences in a way that fails to deliver the knowledge and skills needed to create and maintain national capabilities

7. Gradation and sophistication of skills associated with different levels of attainment

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

The principles that should underpin the NST are:

1. **Scope:** Capture the full range of skills both vocational and cognitive.

2. **Relevance:** Ensure that the skills included are comprehensive and relevant to current and emerging employer and student needs.

3. **Accuracy:** Define each skill or capability clearly and precisely and ensure consistent understanding and application across both technical and transferable skills.

4. **Transferability:** Highlight skills that are transferable across different roles.

5. **Level Differentiation:** Categorise skills according to proficiency levels to help in mapping career progression and development pathways.

6. **Evidence-Based:** Base the taxonomy on research and empirical data to ensure it reflects real-world needs and trends.

7. **Stakeholder Engagement:** Involve educators, industry professionals, and students in the development process to ensure the taxonomy meets practical and educational needs.

8. **Independent:** Ensure independence from political and short-term economic interests, while understanding that immediate shortages and critical skills gaps must also be filled.

9. **Serving the National Interest:** This means not just meeting short-term requirements but also focusing on national goals and maintaining critical capabilities such as national and regional security, a healthy democracy and a healthy and safe population.

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

The trade-off of priorities must be made within the context of how the taxonomy is applied. If the taxonomy is limited in scope the principles that must underpin it can be applied accordingly. If the NST is simply a tool that is used to identify vocational skills and will be applied in a limited capacity without being used to guide student preferences or inform government policy then it is reasonable that the higher-level considerations are not key.

Given the likelihood that it will be used in these ways it is critical that all of the above principles are fully observed.

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**

In order to serve the interests of our members a taxonomy must provide a uniform and granular way of identifying and conveying the full suite of skills associated with a tertiary qualification. It must also incorporate the proficiency of each skill in a way that aligns them to levels of attainment not just number of qualifications.

Building a National Skills Taxonomy implementation considerations

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

Data

A NST cannot properly function in the absence of accurate data. The NST is only going to be useful to employers, students and policy makers if it is built and applied in the context of contemporary and accurate information about:

1. Employer needs

2. Employment trends

3. Current and future skills requirements

4. Contemporary enrolment figures by discipline and subject

5. Skills needs that go beyond vocational shortages and look to national interest

There is currently no accurate data outlining the current enrolment trends in the arts, social sciences and humanities at a subject level. Policy makers currently have no clear idea of actual numbers of students studying critical languages, how to deliver better social and health outcomes for First Nations Australians, the ethical application and development of generative artificial intelligence or how we can improve uptake of policies designed to arrest the advancement of climate change for example.

We are concerned that there are also clear discrepancies between the current skills agenda and the actual needs of employers as outlined extensively in section 1.2 above.

A lack of accurate data risks creating a system of short-sighted decision making which can have negative long-term implications for Australia.

DASSH sees a comprehensive national taxonomy as a powerful tool to accurately capture the broad range of skills that are needed to maintain a thriving economy and a healthy democracy.

Oversight

Any NST must be established, managed, monitored and governed independently from political influence.

The recent consultation paper released on the proposed Australian Tertiary Education Commission indicated that it will in part be underpinned by data generated by Jobs and Skills Australia. If this were to extend to the NST it it would be critical that it remains independently overseen and that it is informed by independent and accurate data.

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**

The ongoing development and maintenance of the NST must be undertaken using the principles outlined in section 2.3 and in line with the data quality considerations detailed in the previous question.

If this is to be a useful tool it must be constantly updated and improved. This is particularly important considering the rapid changes brought about by global developments like the COVID-19 pandemic and the emergence of generative AI. Global developments such as these can fundamentally shape the nature of workforce skills.

This process should be undertaken systematically and could incorporate artificial intelligence technologies and existing datasets tracking global investment and skills trends to ensure it is always relevant.

A NST should be dynamic and responsive to ensure that it is accurately capturing the current skills landscape and reflects any major shifts in workforce trends.