Common Codes Skill Hierarchy

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Abstract

This paper introduces the Common Codes naming hierarchy: 21 Clusters of transferable skills, bundled under 6 Meta-skills, with Skill Families and Facets beneath. The hierarchy sits on top of the two-axis geometry of Focus and Mode established in Sattler (2026), giving names to the regions that geometry identifies. Five design commitments shape it: identity-rule-driven grouping (verb-and-subject pairings, not occupations or sectors); transferable human skills only (separating domain knowledge and personal qualities); non-rivalrous with existing frameworks (every skill in ESCO, the WEF Global Skills Taxonomy, and the other source frameworks locates onto the hierarchy without the source framework needing to migrate); parsimony at the top with surface area below; and a strengths-based default. The result is a shared, legible substrate that lets skills frameworks talk to each other without flattening anyone's vocabulary, and which gives proper surface area to work - care, coordination, resilience, documentation - that has long been collapsed into a single "soft skills" bin.

A note on iteration. The hierarchy presented here is the current iteration. It has stabilised enough to publish; the underlying geometry is locked, the Cluster layer has been through several rounds of bottom-up review, and the Meta-skill layer is solid, but the world of work changes and the language people use to describe skills changes with it. Future iterations will refine, split, merge, or rename layers as the evidence requires.

Naming skills for Common Codes

Finding common ground when deciding what to call specific skills is no easy feat. Some prefer to call the skill of working with others ‘teamwork’, but others prefer ‘collaboration’. You can be ‘flexible’ or ‘adaptable’ with only a slight difference in meaning between the two. The Australian Education Council (2020) named this problem at the policy level, observing that 'general capabilities', 'employability skills', 'soft skills' and 'graduate capabilities' are used interchangeably across different sectors of the education and training system. This linguistic flexibility may make it difficult for us to find consensus, but it does allow the authors of local skills frameworks to respond to the linguistic preferences of their users; hence, it serves a purpose.

In naming skills for this project, where the aim is translation, not duplication, I sought to find common terms used by the majority of existing frameworks wherever possible, recording places where terms diverged and respecting individual framework preferences. The naming schema laid out in this paper describes 6 high level Meta-skills and 21 transferable Skill Clusters. Some of the skills will be familiar to users of existing frameworks, while others were named from patterns I noticed across the skills in each cluster. I also aimed for clarity and equality, so I avoided complex academic descriptors and every skill takes the same grammatical form. This paper introduces the naming system employed and explains the design principles underpinning my choices.

Design Principles

Five commitments shape the hierarchy. They are stated up-front because they are the load-bearing decisions, and because other people designing a skills hierarchy could choose differently; this is simply what guided my decisions.

Identity-rule-driven

Each layer of the hierarchy is anchored to the same identity rule used to derive the underlying geometry: a skill is constituted by what you do (verb) and what or whom you do it to (subject). Outcomes (what changes when the skill works - disease detected, child fed, contract closed) and domains (where it is applied - healthcare, finance, parenting) are variability layers, not identity layers. The hierarchy groups skills by their constitutive identity, not by the contexts in which they happen to appear.

Transferable/human skills only
The hierarchy covers the cognitive, social, regulatory, and physical capabilities a person brings to any task. Domain knowledge - what a welder knows about metallurgy, what a lawyer knows about tort - is real and important, but it is separate from the underlying skill required to apply it. The same goes for personal qualities and values; honesty, curiosity, and ambition are powerful indicators of performance, but they are not skills which can be developed, applied to tasks, or evaluated.

Non-rivalrous with existing frameworks
The hierarchy is positioned as an agnostic Rosetta Stone - a place where skills from any existing framework can be located without that framework being asked to migrate or change. Existing frameworks retain their vocabulary, structure, and content, the Common Codes simply apply a layer which allows us to compare them.

Parsimony at the top, surface area below
The number of layers, and the depth of each, follow the geometry rather than the conventions of existing frameworks. Two top layers (Meta-skill, Cluster) are useful in locating skills from existing frameworks on the geometry. Beneath them sit further layers of families and facets, which the system uses internally to place text precisely, but which are not enumerated here. Their numbers shift as the model develops and as new skills emerge over time; the top two layers are stable design choices and are the appropriate level at which to publish.

Strengths-based by default
Outputs from the system are activation profiles rather than gap analyses or deficit summaries. A person whose lived experience activates Cluster X strongly but not Cluster Y is described as someone whose strengths *include* X, not as someone *deficient* in Y.

The Common Code Hierarchy

There are currently four layers within the hierarchy, Meta-skills, Skill Clusters, Skill Families, and Skill Facets. Every skill at every layer of the hierarchy has coordinates on the geometric plane defined by two axes - **Focus** (inward versus outward) and **Mode** (cognitive versus physical), and the clusters are groups of aligned skills which share local geometry on these axes.

Meta-skills, as the name suggests, are grouped skills at their most abstract layer - clean of outcome or domain, and transferable across contexts. There are six Meta-skills, each bundling Skill Clusters whose work, while distinct in detail, share a structural family resemblance. **Skill Clusters** are the 21 named regions of the skills map, each of which is a distinct type of skill. Clusters hold a number of **Skill Families,** which provide more definition and also show how Clusters are expressed differently in practice. Each Family holds multiple **Skill Facets** which are the most defined elements in this framework and demonstrate how skills from each Family transfer to more specific subjects.

Meta-skills

The six Meta-skills are: *Adapting, Thinking, Solving, Operating, Organising*, and *Connecting*. Each is named as a gerund (a verb-form treated as a noun) because each is a kind of activity rather than a category of person or a domain of expertise. Each Meta-skill bundles between two and four of the 21 Clusters.

Adapting - Adapting bundles two Clusters - *Learning* and *Resilience*. Both Clusters require the same underlying capacity: to handle being changed by what is happening, and continuing to act through the change. *Learning* requires us to respond to new information or experiences, while *Resilience* requires us to respond to challenges or setbacks.

Thinking - Thinking combines *Innovating*, *Analysing*, and *Perceiving*. These three Clusters require us to cognitively process ideas and/or information, and are inherently internal processes.

Solving - The four Solving Clusters of *Investigating*, *Deciding*, *Monitoring* and *Synthesising*, turn the cognitive Thinking processes into action. *Investigating* finds the causes and issues, *Deciding* commits under uncertainty, *Monitoring* tracks progress, and *Synthesising* integrates pieces of evidence into a usable whole.

Operating - This is where you will find the physical and operational skills we use in Executing, Serving, Tending, and for Endurance. These skills equip us to operate equipment, transport goods or people, administer medication, and keep working throughout a long shift.

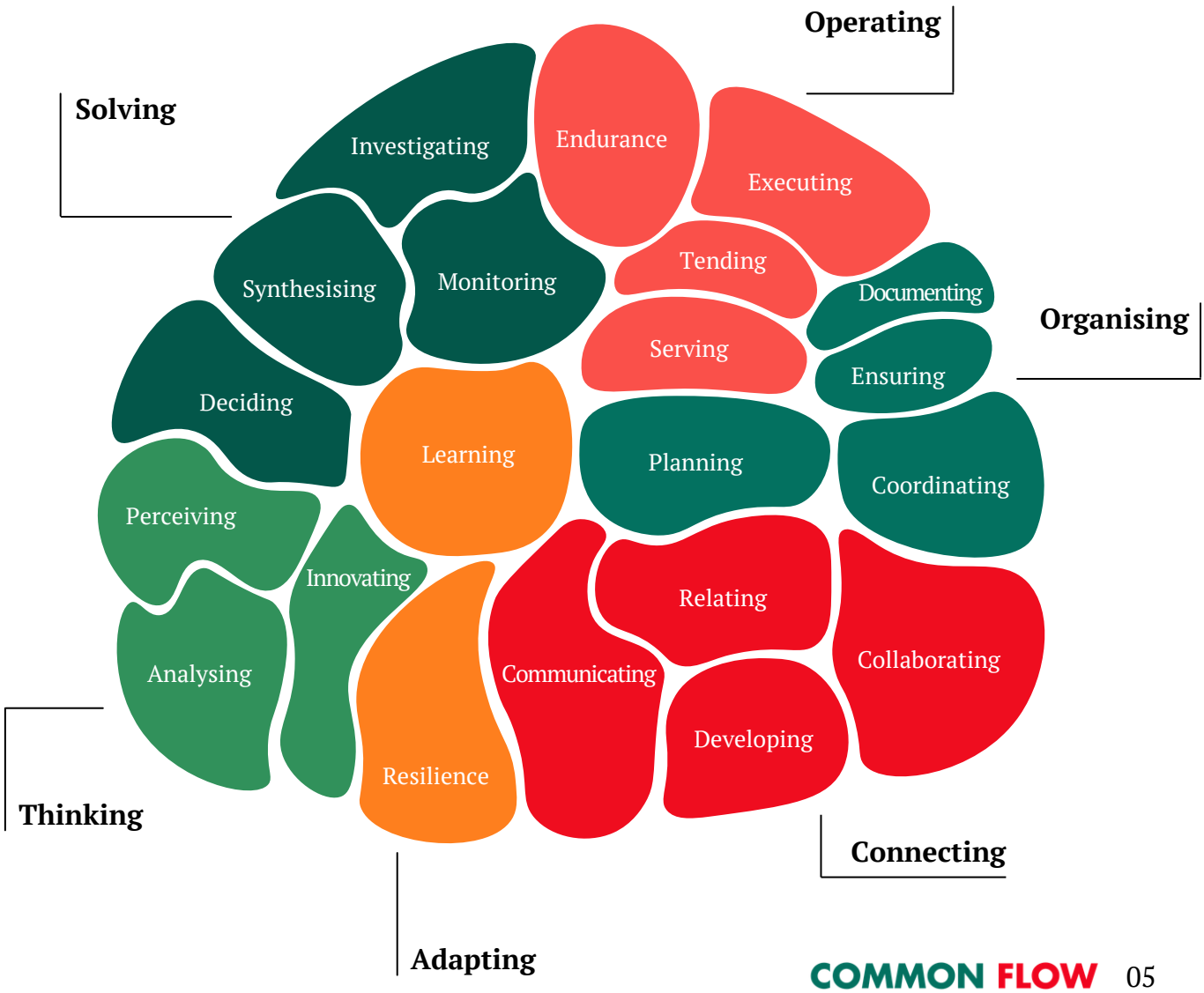
Organising

Organising brings together *Planning*, *Coordinating*, *Ensuring*, and *Documenting*, and is the cognitive complement to Operating. Organising ensures that work is structured so that everything happens reliably, in the right order, against the right standard, and recorded appropriately.

Connecting

The four Clusters in Connecting encapsulate work done with others; *Communicating* moves information between people, *Collaborating* allows us to work cooperatively with others, while *Relating* helps us understand other perspectives. *Developing* sits slightly closer to the cognitive pole, as you are not just interacting with others, but also helping them to become more capable.

The Skills Map



The 21 Skill Clusters

Each Cluster represents a distinct and abstract transferable skill set, able to be applied in a wide range of domains and topics, and composed of multiple skill families. In this section you will find a short introduction to each Cluster; each is named with the same gerund convention as the Meta-skills for clarity and consistency, and occupies a specific location on the map relative to the Focus and Mode axes.

Innovating - Thinking
A cognitive skill with moderate inward focus, innovating is the skill of bringing something into existence that wasn't there before, or seeing an existing thing in a way no one has seen it yet. This includes conceiving original ideas, reframing problems so that new solutions become possible, and producing novel combinations of existing elements. Innovating covers the full spectrum; from artistic creation and inventive problem-solving to scientific discovery, and everyday improvisation. It's the skill of treating constraints as starting points rather than ceilings, and of being willing to propose something that doesn't yet exist.

Perceiving - Thinking
Open, vigilant perception notices internal or external signs through deliberate focus. Perceiving discovers *things*: the anomaly in the data, the symptom the patient didn't mention, the structural flaw no one has reported, the missing element in a scene - it helps us taste a dish before serving it to a customer, identify when it is safe to land the plane, or recognise tension in a meeting room. To perceive, we tune into detail, distinguish signal from noise, and register what's absent as well as what's present.

Analysing - Thinking
Breaking something down to understand what it is, how it works, and what it means, Analysing involves sustained cognitive engagement with information; picking it apart, testing it against other information, and identifying the relationships, assumptions, and implications within it. It applies whether the material is a dataset, a legal document, a symptom presentation, a piece of music, a social situation, or a news article. It's the work of refusing to take a thing at face value. Analysing differs from perceiving (which takes things in) and from investigating (which hunts for a cause): analysing sits with material that's already in front of you and asks what it means.

Investigating - Solving
The skill of moving from concern to clarity. Investigating is hypothesis-driven: you form a theory about what might be wrong, you test it, you rule things in or out, and you trace symptoms back to causes. Unlike analysing, which interrogates data and information for meaning, Investigating focuses on specific causes of issues with an intent to solve a problem. It operates in medicine, engineering, mechanics, detective work, policy failure analysis, relationship difficulties, and anywhere something isn't working as it should.

Deciding - Solving
Decision-making moves you from possibilities to action. Deciding involves weighing options against criteria, accepting trade-offs, managing the risk of being wrong, and committing to a course of action even when information is incomplete. It's distinct from analysis; you can analyse endlessly without deciding, and from planning, which puts decisions into action. Strong decision makers know when they have enough to commit, close off alternatives cleanly, and don't re-litigate a decision once made (unless new information warrants it).

Monitoring - Solving
To monitor effectively, we maintain observation of a process, task, item, or living thing to confirm it is behaving as intended. Monitoring assumes a baseline or expectation and checks reality against it, noticing when things drift, falter, or need intervention. It extends the cognitive skills required for perception and applies them to a subject, and applies to machines, projects, budgets, a patient's vital signs, a child's development, a crop, a relationship, or the weather.

Synthesising - Solving
Synthesising combines multiple inputs into a coherent whole; it takes disparate elements, such as facts, sources, perspectives, data, and stories, and builds them into something integrated and usable. As a skill, it’s constructive, rather than analytical; rather than breaking things down, you are building something new, reconciling conflicting information, finding the through-line across varied inputs, distilling complexity into something graspable, and translating between different framings of the same thing. Synthesising is central to research, writing, diagnosis, strategy, teaching, and sense-making of any kind.

Resilience - Adapting
This skill requires self-control; managing our responses, reactions, and behaviour under external pressure. Effectively handling ourselves in challenging and unfamiliar situations requires a specific set of behaviours, such as taking responsibility for actions, adapting when circumstances change, and persisting under cognitive or social load; hence why this Cluster sits geometrically between Thinking and Connecting on the map, even though it's grouped with Learning under Adapting.

Learning - Adapting
The skill of taking in new information, experiences, and feedback and letting them change how you think and act. This includes deliberate study, informal absorption, learning by doing, and learning from mistakes. It requires a working understanding of your own capacity and is continuous across a lifetime, plus it operates in every domain a person touches, which is why this skill is centrally located in the map - Learning applies to both cognitive and physical processes, whether they are focused internally or towards the world.

Communicating - Connecting
Our Communication skills allow us to share meaning with others, through speech, writing, gesture, image, or performance. This skill requires the ability to both send information (explaining, presenting, persuading) and receive it (listening, interpreting, reading intent). Good communicators adapt register, tailor to the audience, handle questions and pushback, and check that what was meant is what was received. This Cluster contains formal communication, including speeches, reports, and documents, as well as informal conversations.

Developing - Connecting
Unlike the other Connecting skills, Developing requires us to actively support the development of another person, helping them grow in capability, knowledge, confidence, or autonomy. It covers teaching (transferring knowledge and technique), coaching (drawing out capability the person is building in themselves), mentoring (shaping trajectory over time), advising (informing decisions), and counselling (supporting reflection and self-understanding).

Relating - Connecting
Relating allows us to appreciate different perspectives, recognising that not everyone thinks, feels, or experiences the world in the same way, and to adjust our behaviour accordingly. Relating is distinct from empathy; you can relate well to another person without becoming emotionally moved towards them, and to relate we are required to understand power dynamics, cultural sensitivities, historical context, and other's intent, without relying on emotional responses to guide our behaviour.

Collaborating - Connecting
Working on shared tasks with others requires the ability to Collaborate; to listen, adapt, cooperate, and negotiate between positions. Collaborating involves contributing your part, accommodating others' parts, holding a shared goal above individual preference, and managing the inevitable points of difference that come with joint work. It includes mediating when others disagree, negotiating when interests diverge, and knowing when to defer, when to push, and when to compromise. It operates in every setting where more than one person is involved in producing an outcome, from a two-person kitchen to an international coalition.

Coordinating - Organising
This skill brings things together; aligning, managing, and integrating multiple working parts across a workflow, project, or procedure. Different from Planning, which determines the sequence of events, and Collaborating, which focuses on peer-level cooperation, Coordinating is the active work of keeping a moving system in sync. It involves managing the transfer of information, resolving issues with the schedule, aligning people with tasks, and maintaining momentum across the activity.

Planning - Organising
Applying a prioritisation lens to tasks turns a decision or intention into a sequence of actions which can actually be executed. Planning involves breaking goals into components, assigning priority and order, anticipating potential blockers, allocating resources, and determining roles for those involved. Planning operates over long timeframes of multiple years as well as in minutes; and while the skill required may stay the same, the scale of the process will fluctuate to accommodate the complexity and duration of the task.

Ensuring - Organising
This outward-focused Cluster ensures that tasks are being completed as expected to the required standard, rule, or procedure. Ensuring takes place during activity, as well as on completion, and can apply to tasks we complete ourselves, as well as when overseeing tasks or procedures completed by other people, equipment, systems, or processes. An important component of management and self-management, Ensuring can be both formal, such as completing a standardised checklist before operating a machine, or unstructured observational judgement of successful task completion.

Documenting - Organising
Documenting is an inherently outward-facing process and extends the actions taken when Ensuring as it requires us to produce, maintain, and retrieve a record of events and outcomes. Documenting covers capturing data into structured records, transcribing speech, logging events chronologically, drafting procedural manuals and technical specifications, compiling reports from multiple sources, filing and retrieving records, maintaining audit trails and chains of custody, and reconciling records against a source of truth. The skill sits in the craft of the record itself - its accuracy, completeness, and traceability - rather than in the underlying activity being recorded, or the mechanical act of writing.

Endurance - Operating
Sustained bodily output, or Endurance, enables us to work through fatigue, tolerate difficult conditions, and maintain effort across the duration of the task. Endurance combines with the techniques employed while Executing to ensure we can continue with the task until completion, whether we're moving boxes, covering night shift, or managing a major project.

Executing - Operating
Executing is the practical, applied skill of carrying out a task related to an object or item, through using a technique, operating equipment, or transforming materials, to meet expected outputs. This Cluster applies similar technical skills as Tending and Serving, but on inert objects. Different families within this Cluster will activate depending on the task requirements, as we use different types of applied technique for different subjects and contexts, but all skills within this Cluster require active execution of a controlled process.

Tending - Operating
Tending applies the same skill set as Executing towards working on non-human living things, such as animals, plants, livestock, and their environments, keeping them alive, well, and productive. Tending covers the embodied, attentive work of feeding and grooming animals, performing veterinary intervention, handling and moving stock, planting and harvesting crops, pruning, irrigating, and managing the conditions in which animals and plants grow. Tending skills extend the applied practical skills of Executing to consider subjects that are living, and hence less predictable and more complex to work with.

Serving - Operating
Providing skilled care, treatment, or service to a living recipient. Serving isn't teaching, coordinating, or leading - it's doing something for them that they need. Executing a procedure on an object requires precision; serving a recipient requires precision plus responsiveness - because the recipient has a state, opinions, comfort, dignity, and a way of reacting to how the thing is done. Executing is what you do to the thing; serving is what you do with or for the person.

Validation

We have confidence that the hierarchy and geometry which underpin the four levels and skills named by the Common Codes are valid and reliable for the following reasons:

The geometry was discovered, not designed
The two-dimensional structure with axes for *Focus* and *Mode* emerged from items pooled across the six independently-authored frameworks (Sattler, 2026). The structure survived held-out and null tests, the hierarchy is built upon that geometry.

The hierarchy is identity-driven, not occupation-driven
Skills do not cluster naturally from occupation corpora alone; bottom-up clustering of occupational task statements reproduces the structure of the labour market, not the structure of skills. The Clusters were instead derived from the linguistic identity rule - verb + subject pairings - which is constitutive rather than contextual.

Bottom-up testing has shaped the Cluster set
Where review of occupational data surfaced shapes the working framework was collapsing, new Clusters were carved out; where a named Cluster decomposed cleanly into combinations of others, it was retired. The current set of 21 is the version that survived this back-and-forth, not the version drawn at the outset.

The hierarchy is compatible with existing frameworks
Every skill within the source frameworks consulted locates onto one or more of the 21 Clusters; conversely, every Cluster has correlates in those same frameworks. No source framework contained skills the hierarchy could not accommodate, and no Cluster sits without external recognition.

Implications

The Common Codes naming layer makes cross-framework translation tractable at the right grain. A skill stated in any one framework's vocabulary locates onto the same Cluster as its counterpart in another, with the option to drop to Family or Facet level when more precision is needed. The hierarchy also supports coverage analysis: curricula, qualifications, job advertisements, and workforce profiles can be plotted onto it and inspected for which skills they populate and which they leave empty. At an organisational level, the implications include curriculum and workforce design, skills gap analysis, and comparison of qualifications and occupational standards across jurisdictions; at an individual level, people can see which skills their work and life experience activate, highlighting strengths and possibilities.

The naming layer also gives surface area to work that has long been under-described. Care, coordination, resilience, and documentation are each well-developed Clusters with their own Families and Facets, and the tasks that activate them — often performed disproportionately by women, by migrants, or by carers — get full visibility rather than being collapsed into a single "soft skills" bin. At the system level, this offers a common language across recognition bodies without asking any institution to migrate, addressing the problem the Australian Education Council named in 2020.

References

Education Council. (2020). Looking to the future—Report of the review of senior secondary pathways into work, further education and training. https://cica.org.au/wp-content/uploads/Looking-to-the-Future-Report-June-2020-1.pdf

Sattler, L. (2026). A Two-Axis Framework for Human Skills. Common Labs. https://doi.org/10.5281/zenodo.19933088

Artificial Intelligence Disclosure

The identification of the geometric axes which underpin the hierarchy, the hierarchy itself and it’s naming, definition, and structure were developed by the author, who also selected the source frameworks and authored this paper. Anthropic's Claude was used as a cognitive extension and thinking surface, most notably during the bottom-up review which surfaced possible configurations of Clusters within the Operating Meta-skill. Claude was not used in the production inference pipeline of the encoder, which is deterministic, local, and contains no large-language-model component.