Quality Learning: Capacity Matrix

Monitor your learning of the concepts, practices and tools to improve the quality of learning.

Contents

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Capacity Matrix

for the Quality Learning philosophy and its application

The following capacity matrices outline the concepts, practices and tools of Quality Learning. There are five matrices, one relating to each area of Deming's system of profound knowledge and one relating to the quality learning tools.

Use the matrices to self-assess, plan and monitor your learning as you seek to apply the philosophy to your own personal context.

Each row of the matrices details the specific capacities to be developed.

The levels of learning are as follows.

- **Information**: I have heard of this and can answer simple questions about it.
- **Knowledge**: I can explain this in my own words and relate it to other things.
- **Know-how**: I can apply this and know when to do so.
- **Wisdom**: I know why this is so, can apply it in new situations and can teach others.

The evidence column is for you to record evidence you could use to demonstrate your level of learning achieved.

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Working on the system

Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
Working on the system	Systems	Different types of systems					
		Nested systems					
	Social Systems	Key characteristics: choice of purpose and methods					
		Interactions within social systems					
		Direct and interaction effects					
	System behaviour and performance	Cause and effect					
		Optimisation and sub-optimisation					
	Improving systems	The blame game					
		Working in and on the system					
		Daily routines					
		Improving systems and processes					
		Innovation projects					
		Documenting systems					
	System Mapping	Elements of the System Map: Purpose, Vision, Values, People, Clients, Suppliers, Other Stakeholders, Inputs, Outputs, Outcomes, Processes, Results Measures, Feedback.					
		Creating System Maps					
	Purpose	Individual					
		Team					
		Organisation					
	Vision	Shared vision					
		Allignment					
		Quality criteria					
	Values	Behaviours					
		Alignment with guiding principles					

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Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
	Processes	SIPOC					
		Impact on relationships and behaviour					
		Waste: rework, non-value adding activities, unnecessary checking.					
		Mapping processes					
		Types of processes: Management, Core and Support					
		Clarifying Roles: Accountable, Responsible and Consulted					
	Improving processes	Processes produce outputs and outcomes					
		Use of a structured improvement process (Plan-Do-Study-Act)					
	Clients	Direct and indirect clients					
		Perceptions: Basic, Performance-related, Delight					
		Internal clients					
	Stakeholders	Types: Clients, People in the system, Suppliers and Others.					
		Competing demands					
		Emotional engagement					

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Creating and applying theory

Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
Creating and applying theory	Planning	A process. Interrelated decisions. Desired future state.					
		Types of planning.					
		Characteristics of good planning					
		Actions vs. strategies					
		Improving systems vs. to do lists					
		Improvement projects					
	Theory of Knowledge	Prediction					
		Creating and testing hypothesis					
		Operational definitions					
		Learning not copying					
		Creating a theory for improvement					
		Plan-Do-Study-Act (PDSA) learning and improvement cycle					
		Storyboards for PDSA teams					

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Using data to improve

Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
Understanding and responding to variation	Data	Subjective and objective					
		Qualitative and quantitative					
		The 'voice' of the system					
		Reliability and validity					
	Measures	Measurement defined					
		Performance measures					
		Process measures					
		Perception measures					
		Input measures					
		Operational definitions for measures					
	Use of data	Monitoring performance					
		Adjusting system operations					
		Understanding system behaviour					
		Numerical goals (targets)					
		Rating and ranking					
		Fear and the misuse of data					
		The unknown and the unknowable					
	Statistics	Statistic defined					
		Mean, median, mode					
		Range, standard deviation					
	Variation	Statistical thinking					
		Displaying data: graphs and charts					
		Variation: Within groups, Between groups, Over time					
		Normal distribution					
		Special cause variation					
		Common cause variation					
		Control charts and control limits					
		System stability					
		System capability					
		Responding appropriately to variation					
	Tampering	Over reacting to special cause variation					
		Over reacting to individual data points					
		Chopping the tails of the distributions					
		Failing to address root causes					

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Improving relationships

Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
Removing barriers to learning and improvement	Motivation	Maslow's hierarchy of needs					
		Herzberg's two factor theory					
		McGregor's X and Y theories					
		Intrinsic motivation					
		Extrinsic motivation					
		Interactions between intrinsic and extrinsic factors					
		Rewards, punishments and consequences					
		Compliance vs. engagement					
		Purpose: Meaning, Relevance, Possibility					
		Choice: Responsibility, Autonomy, Creativity					
		Mastery: Challenge, Achievement, Learning					
		Belonging: Collaboration, Feedback, Support					
		Removing barriers					
	Relationships	Dependence					
		Independence					
		Interdependence					
		Preconditions for interdependence					
		Student-teacher relationship continuum					
		Recognition vs. rewards and praise					
		Feedback					
		Cooperation vs. competition					
		Drive out fear					
		Conversations and questions					
	Leadership	Management vs. leadership					
		Followership					
		Improving processes and relationships					
		Role modelling					

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Making improvement happen

Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
Applying the principles and practices to achieve continual improvement	Key considerations in application	Lead improvement					
		Maintain constancy of purpose					
		Build a critical mass of volunteers					
		Engage everyone in improvement					
		Sustain continual learning					
	Apply the principles	Agree the principles in your context					
		Ask principle-based questions					
	Think and act systemically	Understand, agree and document your systems					
		Act in the interest of the whole system: Optimise					
	Use data effectively	Establish measurement processes					
		Apply statistical thinking					
	Conduct regular self-assessment	Self-assess individual learning and behaviour					
		Undertake system self-assessment					
	Use tools and the PDSA cycle	Establish and train improvement project teams					
		Use the quality learning tools					
	Capture and share the learning	Identify and document key processes					
		Review core leadership processes					
		Establish system documentation					

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Quality learning tools

Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
Increase collaboration and apply the guiding principles	System tools	Deployment flowchart					
		Fishbone diagram					
		Five whys					
		Force-field analysis					
		Imagineering					
		Interrelationship digraph					
		Paper passing purpose tool (P^3T)					
		Parking lot					
		Perception analysis					
		Process accountability matrix					
		Purpose, outcomes, process, evaluation (POPE)					
		Standard flowchart					
		System map					
		System's progress					
		Top-down flowchart					
	Planning and knowledge tools	Bone diagram					
		Gantt chart					
		Hot dot					
		Lotus diagram					
		Operational definition					
		Potential improvement matrix					
		Problem statement					
	Variation in data tools	Affinity diagram					
		Box and whisker plot					
		Control chart					
		Dot plot					
		Histogram					
		Measures selection matrix					
		Pareto chart					
		Radar chart					
		Run chart					
		Structured brainstorming					

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Aim	Capacity	Capacity Breakdown	Information	Knowledge	Know-how	Wisdom	Evidence
	Motivation and relationship enhancing tools	Capacity matrix					
		Code of cooperation					
		Consensogram					
		Decision and action record					
		Loss function					
		Plus delta					

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