

Overview of Apprenticeship Standard Improvement Specialist Level 5



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specialising in developing core organisational
capabilities, supporting business strategy and
increased operational performance.**

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Improvement Specialist Level 5

Improvement Specialists are responsible for leading the deployment of improvement strategy, for training others and for providing broad and deep technical expertise in advanced and complex Lean and Six Sigma, Project and Change Management principles and tools to enable identification and delivery of improvement opportunities aligned to key business goals.

Improvement Specialists typically report to Improvement Leaders who develop the improvement strategy and governance processes, and who provide technical guidance on advanced analysis. Improvement Specialists manage (directly and/or matrix) Improvement Practitioners who lead smaller improvement projects aligned to the improvement strategy. A typical ratio of Improvement Specialists to Improvement Practitioners in an organisation could be 1:10. In comparison with the work of an Improvement Practitioner, Improvement Specialists draw on their advanced knowledge and skills in applying Improvement principles and tools across a range of programmes/ projects/areas to build the capability of others. They also swiftly visualise processes, problems and opportunities and use both graphical and statistical analysis to deliver improvements.

They work closely with other Improvement Specialists to support the delivery of improvement strategy, working on multiple simultaneous projects linked to key business objectives, identifying and engaging both subject matter experts and key stakeholders.

Typical roles and responsibilities:

- Leading the local deployment of improvement strategy; supporting delivery of business goals.
- Providing technical expertise in structured Improvement methods and advanced tools.
- Leading advanced and/or cross-functional Improvement projects.
- Co-ordinating Practitioner-level Improvement training, activities and projects.
- Coaching, mentoring and communicating with Improvement Practitioners, business leaders and stakeholders.

Knowledge

Improvement Specialists have the Knowledge of:

- ✓ **Leading improvement teams**
- ✓ **Project planning**
- ✓ **Project reviews & coaching**
- ✓ **Change planning**
- ✓ **Commercial environment**
- ✓ **Principles & methods for Improvement**
- ✓ **Voice of the customer**
- ✓ **Process mapping & analysis**
- ✓ **Data acquisition planning**
- ✓ **Statistics & measures**
- ✓ **Lean concepts and tools**
- ✓ **Measurement system analysis**
- ✓ **Process capability**
- ✓ **Root cause analysis**
- ✓ **Experimentation:**
- ✓ **Identification & prioritisation**
- ✓ **Failure mode avoidance**
- ✓ **Sustainability & control**

Skills

Improvement Specialists have the following Skills:

- ✓ **Leading improvement teams**
- ✓ **Deployment of Continuous Improvement**
- ✓ **Communication**
- ✓ **Capability Development**
- ✓ **Project planning**
- ✓ **Change planning**
- ✓ **Principles and Methods for Improvement**
- ✓ **Project selection & scope**
- ✓ **Process mapping & analysis**
- ✓ **Lean tools**
- ✓ **Measurement**
- ✓ **Statistics & measures**
- ✓ **Data analysis-statistical methods**
- ✓ **Process capability & performance**
- ✓ **Root cause analysis**
- ✓ **Experimentation & optimisation**
- ✓ **Data analysis - Statistical Process Control**
- ✓ **Benchmarking**
- ✓ **Failure mode avoidance**
- ✓ **Sustainability & control**

Behaviours

Improvement Specialists demonstrate the following Behaviours:

- ✓ Drive for results
- ✓ Can-do attitude
- ✓ Team-working
- ✓ Leads cross functional project teams
- ✓ Supports others
- ✓ Replicates learning
- ✓ Professionalism
- ✓ Integrity, ethics and trust
- ✓ Maintaining flexibility to the business
- ✓ Process Thinking
- ✓ Customer-focused
- ✓ Data-driven decision making
- ✓ Continuous development
- ✓ Safe working
- ✓ Proactive approach to safety
- ✓ Encouraging others

End Point Assessment

End point assessment (EPA) is an assessment of the knowledge, skills and behaviours that your apprentice has learned throughout an apprenticeship, which confirms that they are occupationally competent.

Assessments have been designed by employers in the sector and are conducted by independent bodies known as end point assessment organisations (EPAOs).

The apprentice will only get their apprenticeship certificate after they have passed all the elements of their EPA, including any required standards in English and maths.

What does assessment involve?

Each apprenticeship includes an end point assessment plan, which describes how the apprentice should be tested against appropriate criteria, using suitable methods. For example, your apprentice may need to complete:

- a practical assessment
- an interview
- a project
- written and/or multiple-choice tests
- a presentation
- professional discussion

We will inform you at the beginning of the apprenticeship what the assessments are involved. This will give your apprentice plenty of time to prepare. For example, they may need to gather evidence to show how they've been working towards the core knowledge, skills and behaviours required.

Additional description of Improvement Specialist's Knowledge:

Leading improvement teams: Personality types, team development stages, motivational techniques, situational leadership, learning styles, mentoring models

Project planning: Multi-element business case, financial plan, benefits realisation plan, risk management plan, project plan

Project reviews & coaching: Coaching models, Maslow's hierarchy of needs

Change planning: Change management methods, impact/readiness, influencing strategies

Commercial environment: Business and economic risks including changes in legislation, government regulation or trading conditions that can impact all aspects of improvement from Project Selection through to selection/implementation of improvements

Principles & methods for Improvement: How to apply Improvement Methods (eg. Practical Problem Solving, Define-Measure-Analyse-Improve-Control, 8-Disciplines, Identify-Define-Optimise-Verify) across all functions, policy deployment principles, Lean culture

Voice of the customer: Interviewing and focus groups, Quality Function Deployment principles and how to build a House of Quality

Process mapping & analysis: Activity network diagrams, design structure matrix, process modelling, key function diagrams and analysis

Data acquisition planning: Stratification, rational sub-groups, power and sample size

Statistics & measures: Probability distributions and how to test for fit of probability distributions to data. Confidence intervals, central limit theorem. How to test data for stability and normality and strategies for dealing with non-stable or non-normal data

Lean concepts and tools: Principles of Lean Thinking and Lean tools including origins and cultural aspects critical to successful application within an organisation.

Measurement system analysis: Repeatability & Reproducibility analysis. Long term measurement error

Process capability: Data transformation, life data analysis and prediction

Root cause analysis: Matrix plots, multi-vari charts, hypothesis testing principles and methods, correlation and regression principles and methods

Experimentation: Principles of full and fractional designed experiments including replicates, repeats, randomisation, blocking and centre points, resolution and confounding. Planning and analysis using residuals, main effects & interaction plots, hierarchy of terms, Response Surface Method, Split plots, Analysis of variance (ANOVA). Approaches for model optimisation

Identification & prioritisation: Creativity tools e.g. theory of inventive problem solving (TRIZ), Pugh matrix

Failure mode avoidance: System state flow, boundary diagram, interface analysis tables, fault tree analysis, robustness checklist, tolerance design and analysis. Principles and links between Failure Modes and Effects analysis for concepts, designs, processes.

Sustainability & control: Control and reaction plans. Prevention controls

Additional description of Improvement Specialist's Skills:

Leading improvement teams: Holding team members/stakeholders to account for delivering agreed actions within an improvement project and building/maintaining appropriate stakeholder relationships inside and outside the organisation to deliver improvement project objectives

Strategic Deployment of Continuous Improvement: Contribute to deployment of improvement strategy, participating as an active member of the improvement community

Communication: Prepare and present concise proposals and plans. Capture and share progress through effective formats and channels. Use and handle questions effectively. Build rapport with others.

Capability Development: Train, facilitate and critique the application of tools used by improvement practitioners including tool-selection, links between tools, how they are used within a structured method, analysis of results and presentation of recommendations

Project planning: Plan and manage finances, multi-stakeholder delivery and benefits realisation

Change planning: Design reinforcement, engagement and communication strategies

Principles and Methods for Improvement: Guide others on the selection of appropriate methods (eg. Practical Problem Solving, Define-Measure-Analyse-Improve-Control, 8-Disciplines, Identify-Define-Optimise-Verify) to deliver improvements. Conduct gateway assessments to ensure suitability of projects to progress

Project selection & scope: Guides others on the selection and scoping of improvement projects and the initial response to product/process performance issues. Identify, scope and prioritise improvement opportunities that map to high-level organisation objectives and key value-streams

Process mapping & analysis: Guide others on the selection of appropriate process mapping and analysis tools. Critique improved state

Lean tools: Identify and analyse value-streams using appropriate methods and tools to optimise flow to customer. Develop a plan for Lean deployment within the organisation including effective and relevant performance metrics.

Measurement: Guide others on the planning, analysis and interpretation of data collection & measurement studies including the design of tests to recreate failures & steps to diagnose/reduce short & long-term measurement variation

Statistics & measures: Confirm data and fit for a range distribution models. Establish predictions. Calculate confidence intervals

Data analysis-statistical methods: Model random behaviour and make inferences with levels of confidence. Calculate/recommend sample size. Test hypotheses for all data types. Assess input/output correlation. Generate, analyse and interpret simple and multiple predictive relationship models

Process capability & performance: Identify data stability/distribution issues and apply appropriate strategies to enable robust Capability Analysis. Analyse life data to establish rates and patterns

Root cause analysis: Make appropriate use of data to assess contribution of critical inputs/root cause(s) to product/process performance using appropriate graphical and statistical tools to draw and communicate conclusions

Experimentation & optimisation: Guide others on the planning, analysis and interpretation of experiments. Plan, conduct, analyse and optimise both full & fractional experiments

Data analysis – Statistical Process Control: Monitor and assess ongoing process variation and changes through chart-selection, control-limit setting, sample sizing/frequency and control-rules

Benchmarking: Guide others on benchmarking to support all stages of improvement projects including future-state design

Failure mode avoidance: Decompose complex systems in order to define main functions. Analyse system interactions. Cascade knowledge through fault tree analysis. Create and assess design rules, standards & verification methods. Complete robustness studies to select appropriate control strategies and detection methods

Sustainability & control: Guide others on control and sustainability planning including methods and tools to maintain benefits, extraction of learning, replication, sharing and consolidation of new knowledge into organisational learning

Additional description of Improvement Specialist's Behaviours:

Drive for results: Co-ordinates and delivers sustained improvement across the business by engaging with, and inspiring stakeholders; adopting a can-do attitude

Team-working: Leads cross functional project teams proactively, regularly supports others and replicates learning

Professionalism: Exemplifies high standard of professional integrity, ethics and trust within the organisation, whilst maintaining flexibility to the needs of the business

Process Thinking: Drives process-thinking and customer-focused, data-driven decision making

Continuous development: Identifies & models opportunities for development of self & others

Safe working: Adopts a proactive approach to safety, encouraging others and suggesting compliance improvements

**For further information about our
courses please contact Claire Indans**

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