Highfield Level 4 End-Point Assessment for ST0192 Improvement Practitioner

End-Point Assessment Kit

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EPA Kit

Contents

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How to use this EPA kit

Welcome to the Highfield end-point assessment kit for the level 4 improvement practitioner apprenticeship standard.

Highfield is an independent end-point assessment organisation that has been approved to offer and carry out the independent end-point assessments for the level 4 improvement practitioner apprenticeship standard. Highfield internally quality assures all end-point assessments in accordance with its IQA process, and additionally, all end-point assessments are externally quality assured by the relevant EQA organisation.

The EPA kit is designed to outline all you need to know about the end-point assessments for this standard and will also provide an overview of the on-programme delivery requirements. In addition**,** advice and guidance for trainers on how to prepare apprentices for the end-point assessment is included. The approaches suggested are not the only way in which an apprentice may be prepared for their assessments, but trainers may find them helpful as a starting point.

Key facts

Apprenticeship standard:	Improvement practitioner
Level:	4
On Programme Duration:	Typically 14-18 months
End-Point Assessment Window:	2 months
Grading:	Pass/merit/distinction
End-Point Assessment methods:	Multiple-choice examination Project report, presentation and questioning Professional discussion underpinned by log

In this kit, you will find:

- an overview of the standard and any on-programme requirements
- a section focused on delivery, where the standard and assessment criteria are presented in a suggested format that is suitable for delivery
- guidance on how to prepare the apprentice for gateway
- detailed information on which part of the standard is assessed by which assessment method
- suggestions on how to prepare the apprentice for each part of the end-point assessment
- a section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out ‘mock’ assessments

Introduction

Standard overview

Improvement practitioners use a blend of Lean and Six Sigma, project and change management principles and tools to identify and lead the delivery of change across organisational functions and processes. Improvement practitioners can be found across all sectors and functions including automotive, banking, engineering, food products, IT, property, retail, telecoms, etc.

Typically, practitioners lead smaller projects and/or play a key supporting role in a larger programme. They tackle issues that may require swift problem solving or recurring challenges that require in-depth analysis and the implementation of a range of effective and sustainable countermeasures. They are the focal point for all stakeholders and responsible for communication throughout a project. Typical activities include:

- identifying potential opportunities, diagnosing issues, proposing solutions and implementing changes and controls
- coaching teams and sharing best practice
- leading projects and managing small teams, ensuring motivation and momentum, and being responsible for the successful completion of the projects

There are a variety of job titles associated with the occupation, these include, but are not limited to: business improvement practitioner, continuous improvement manager, process excellence manager, Lean Six Sigma Green Belt and quality control senior analyst.

On-programme requirements

The period of learning, development and continuous assessment is managed by the employer, in most cases with the support of a training provider. The on-programme pace will be driven by individuals as well as by the breadth of experience an employer can offer. The whole programme will be completed in typically 14-18 months. The apprentice may start the end-point assessment typically after 14 months on-programme.

In order to drive quality and consistency through on-programme learning, employers may wish to consider the following:

- use of their normal performance management processes to monitor the progress of the apprentice, provide feedback and guide development
- provide support, ensuring the requirements of the apprenticeship standard are reflected in the above processes, and by filling any gaps through their work with apprentices

- carry out joint reviews of progress at regular intervals, involving apprentices, line managers and others with a direct relationship, e.g. mentors, workplace coaches, etc. they should agree how any issues are to be resolved together

During their time on-programme, the apprentice:

- must have been involved with an improvement project which allows them to gather evidence of actions they have taken to go toward the completion of a project portfolio and report
- develop and maintain examples of their work throughout their apprenticeship that cover the full standard. This should be in the form of a log, detailing all training, learning and workshops undertaken during the apprenticeship. The log should typically reference between 13 and 15 pieces of evidence. This should be presented at the gateway meeting.
- progress throughout the apprenticeship should be reviewed on-programme at intervals agreed by the employer and training provider, for example at 3, 6 and 9 months

The portfolio must be accompanied by a portfolio matrix. This can be downloaded from our website. The portfolio matrix must be fully completed, including a declaration by the employer and the apprentice to confirm that the portfolio is valid and attributable to the apprentice.

The portfolio of evidence must be submitted to Highfield at gateway. It is not directly assessed but underpins the professional discussion.

Use of Artificial Intelligence (AI) in the EPA

Where AI has been used as part of the apprentice's day-to-day work and forms part of a project report, presentation, or artefact, it should be referenced as such within the work. AI must not be used to produce the report or portfolio.

Where AI has been used as part of a portfolio that underpins an interview or professional discussion or any other assessment method, it should be fully referenced within the portfolio.

Additional, relevant on-programme qualification

There are no mandatory qualifications for this standard, however, employers may wish to include relevant qualifications to help structure the on-programme delivery.

Readiness for end-point assessment

In order for an apprentice to be ready for the end-point assessments:

- the employer must be satisfied that the apprentice is consistently working at or above the level set out in the standard. To ensure this, the apprentice must attend a formal meeting with their employer to complete the gateway readiness report.
- the apprentice must have completed the **log of all training**, learning and workshops they have attended. The log will typically include one piece of evidence for each to cover each one of the required standards.
- the apprentice must have completed a **project portfolio** to evidence completion of an improvement project(s)
- the apprentice must have achieved level 2 English and mathematics
- the above must be completed, the apprentice and the employer should then engage with Highfield to agree a plan and schedule for each assessment activity to ensure all components can be completed within a 2-month end-point assessment window. Further information about the gateway process is covered later in this kit.

If you have any queries regarding the gateway requirements, please contact your EPA Customer Engagement Manager at Highfield Assessment.

Order of end-point assessments

Both the presentation and questioning around the project report and the professional discussion underpinned by log will take place on the same day during month **two** of the end-point assessment window with a minimum of two weeks' notice period given to the employer.

The multiple-choice examination can take place at any point during the end-point assessment window.

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The Highfield approach

This section describes the approach Highfield has adopted in the development of this end-point assessment, in terms of its interpretation of the requirements of the end-point assessment plan and other relevant documents.

Documents used in developing this end-point assessment

IMP (2023)
Improvement Practitioner / Institute for Apprenticeships and Technical Education

End-point assessment plan (ST0192/v1.2)
https://www.instituteforapprenticeships.org/media/vvxf5sri/st0192_improvement-practitioner_l4.pdf

Specific considerations

In accordance with the improvement practitioner assessment plan, Highfield has noted that where assessment criteria are not present these have had to be created based on the Standard. The assessment criteria have been written based on the Standard and the grading criteria taken from the assessment plan.

For the presentation and questioning and professional discussion, Highfield has taken the decision to allow apprentices the maximum allocated time as stated in the assessment plan.

For the multiple-choice exam, the assessment plan states that 40 questions should be drawn at random for every test. Highfield has created a bank of questions for the Improvement Practitioner EPA and questions are drawn from this bank in order to create examination papers that ensure full and comparable coverage of the required knowledge criteria in every test.

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Gateway

How to prepare for gateway

After apprentices have completed their on-programme learning, they should be ready to pass through 'gateway' to their end-point assessment.

Gateway is a meeting that should be arranged between the apprentice, their employer and training provider to determine that the apprentice is ready to undertake their end-point assessment.

The apprentice should prepare for this meeting by bringing along work-based evidence, including the completed:

- log of 13 to 15 pieces of evidence, detailing:
    - one piece of evidence holistically mapped to each knowledge, skill and behaviour that is assessed in the professional discussion
    - all training, learning and workshops attended

For example, an apprentice may write up a meeting with stakeholders to demonstrate working in a team and communication.

- project portfolio to evidence completion of an improvement project or projects

In advance of gateway, apprentices will need to have achieved:

- level 2 English
- level 2 maths

Therefore, apprentices should be advised by employers and providers to gather this evidence and undertake these qualifications during their on-programme training. It is recommended that employers and providers complete regular checks and reviews of this evidence to ensure the apprentice is progressing and achieving the standards before the formal gateway meeting is arranged.

The gateway meeting

The gateway meeting should last around an hour and must be completed on or after the apprenticeship on-programme end date. It should be attended by the apprentice and the relevant people who have worked with the apprentice on-programme, such as the line manager/employer or mentor, the on-programme trainer/training provider and/or a senior manager (as appropriate to the business).

During the meeting, the apprentice, employer and training provider will discuss the apprentice's progress to date and confirm if the apprentice has met the full criteria of the apprenticeship standard during their on-programme training. The **gateway readiness**

report should be used to log the outcomes of the meeting and should be agreed by all 3 parties. This report is available to download from the Highfield Assessment website.

The report should then be submitted to Highfield to initiate the end-point assessment process. If you require any support completing the gateway readiness report, please contact your EPA Customer Engagement Manager at Highfield Assessment.

Please note: a copy of the standard should be available to all attendees during the gateway meeting.

Reasonable adjustments and special considerations
Highfield Assessment has measures in place for apprentices who require additional support. Please refer to the Highfield Assessment Reasonable Adjustments Policy for further information/guidance.

ID requirements
All employers are required to ensure that each apprentice has their identification with them on the day of assessment so the end-point assessor/Highfield Assessment can check that the person undertaking the assessment is indeed the person they are claiming to be.

Highfield Assessment will accept the following as proof of an apprentice's identity:

- a valid passport (any nationality)
- a signed UK photocard driving license
- a valid warrant card issued by HM forces or the Police
- another photographic ID card, such as an employee ID card or travel card

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The Level 4 Improvement Practitioner apprenticeship standard

The following pages contain the Level 4 Improvement Practitioner Apprenticeship Standard and the assessment criteria in a format that is suitable for delivery.

Compliance
Multiple-choice examination
Knowledge
K1 Legislative and customer compliance requirements including health and safety
Assessment criteria
E1 Explain the employer's main duties under the Health and Safety at Work Act 1974 (K1) E2 Critically evaluate the **customer compliance** requirements of the business (K1)
Amplification
• **Customer compliance**:   ○ the managed relationship between a business and its customers. These can range from formal contractual compliance agreements to service level agreements. The effects of meeting customer compliance requirements are important to consider when managing this relationship.

Project management
Multiple-choice examination
Knowledge
K3 Business case, risk analysis and management, toll-gate reviews, work breakdown structure, lessons learned, pilot studies, project review, process management and measures, benefits tracking
Assessment criteria
E3 Clarify the business case through **risk analysis** and management (K3) E4 Describe the **toll-gate review process** (K3)

E5	Identify the purpose of creating a **work breakdown structure** (K3)
E6	Evaluate the use of **benefits tracking** in project management (K3)
E7	Explain the purpose of **process management** when managing projects (K3)

Amplification

- **Risk analysis**: risk analysis is a process of risk identification, ranking and providing associated mitigation actions, usually within a defined governance framework.

- **Toll-gate review process**:
  - using the Six Sigma DMAIC methodology, toll-gate reviews occur at the end of each phase. This is a formal process that sequentially reviews and assesses the project progress against set deliverables or activities.

- **Work breakdown structure:**
  - a 'deliverable-oriented' breakdown of a project into smaller components that organises the team's work into manageable sections. It breaks down the project into a visual and hierarchical structure and keeps team members focused.

- **Benefits tracking**:
  - a process established to ensure predicted/potential benefits of a project are monitored throughout the project. Tracking this can help to provide a good indication of the projects performance and is important as it shows how outcomes can be/are achieved.

- **Process management**:
  - a systemic approach to managing the process of a project through the agreed methodology and review process, providing governance and a programme management plan for all stakeholders.

Change management
Multiple-choice examination
Knowledge
K5 Stakeholder identification, analysis and management (RACI). Change curve, resistance characteristics, change sponsorship, compelling point of view
Assessment criteria
E8 Identify a key benefit of applying the **RACI model** to managing change (K5) E9 Summarise typical responses to organisational and personal change as outlined in **change curve theory** (K5) E10 Outline the role of the **sponsor** in managing change (K5) E11 Explain how the **compelling point of view** can support **organisational change** (K5)
Amplification

• **RACI model**:
  ○ also known as a matrix, is used to establish who is Responsible, Accountable, Consulted and Informed in project activities or as a decision-making tool. These need to be defined and clarified in cross-functional projects.
• **Change Curve Theory**:
  ○ a model commonly used to reference individual experience and transition through organisational change, commonly used models include Kubler-Ross and Kotter's 8-Step Model.
• **Sponsor**:
  ○ the sponsor will often produce the business case for a project and be involved in the initiation.
 	
• **Compelling point of view**:
  ○ used to influence and connect organisational strategy and values to improvement projects.
 	
• **Organisational change**:
  ○ delivered through portfolios, programmes and projects this is the process of embedding change to a new normal state within an organisation.
 	
Barriers to organisational change could include:
  ○ no involvement from employees

- unclear goals
- poor leadership or leadership strategy
- ineffective communication
- negative attitude/resistance to change form employees

Principles and methods
Multiple-choice examination
Knowledge
K6 Business value of Lean and Six Sigma improvement methods - 8D, practical problem solving, Define Measure Analyse Improve Control, Design for Six Sigma
Assessment criteria
E12 Explain the business value of **Six Sigma** methodology (K6) E13 Evaluate the importance of **DMAIC** phases in **Lean Six Sigma** problem-solving (K6) E14 Summarise the purpose of the **8D** approach to problem solving (K6) E15 Explain the main principles and business value of **Lean** (K6)
Amplification

• **Six Sigma**:
  ○ a disciplined, data-driven approach and methodology for eliminating defects or solving problems in any process. That focuses on quality and consistency, through process improvement and variation reduction which can have positive long-term effects for the organisation or business.
• **DMAIC**:
  ○ the roadmap for Six Sigma: Define, Measure, Analyse, Improve, Control are the consecutive stages of all Six Sigma improvement projects.
• **Lean Six Sigma**:
  ○ a combination of Six Sigma and Lean methodology that focuses on delivery of customer value through efficient operations and quality standards.

- **8D**:
  - Eight Disciplines Methodology is a team-oriented problem-solving methodology. Identifies the root cause of a problem, finds a short-term fix, and then puts in place corrective solutions to eliminate the recurring problem permanently.
  - **8D framework consists of:**
    - D0 – plan and prepare
    - D1 – create a team
    - D2 – define and describe the problem
    - D3 – contain the problem; develop an interim containment plan and actions
    - D4 – identify, describe and verify root causes and escape points
    - D5 – choose corrective actions, to provide a permanent solution to the problem
    - D6 – implement and validate corrective actions
    - D7 – take preventive measures
    - D8 – congratulate your team

- **Lean**:
  - an improvement methodology that focuses on efficiency through minimising waste, errors and delays. Lean has 5 key principles which look at improving workplace efficiency.
  - Lean methodology commonly uses improvement tools such as 5S, Kanban, Value Stream Mapping and PDCA.

Project selection and scope
Multiple-choice examination
Knowledge
K7 Y=f(x) equation (outputs are the result of inputs), business scorecard cascade
Assessment criteria
E16 Interpret the use of **Y=f(x)** equation in determining project selection (K7) E17 Explain the benefits of cascading the **balanced scorecard** through the business through teams, and to individuals. (K7)
Amplification

• **Y=f(x)**:
  ○ otherwise known as the breakthrough equation when used in conjunction with six sigma. Y= the outcomes, X= the inputs, F= the function. This can be used to measure current performance to find areas for improvement.
 	
• **Balanced scorecard**:
  ○ in Six Sigma terms this is a model that summarises strategic goals, initiatives to meet those goals, using metrics or key performance indicators, that monitor success over time.

Problem definition
Multiple-choice examination
Knowledge
K8 Cost of Poor Quality, problem analysis models such as Is/Is Not
Assessment criteria
E18 Define the meaning of **cost of poor quality** (K8) E19 Evaluate different problem analysis models, for example, **Is/Is Not** (K8)
Amplification
• **Cost of poor quality**:

- the total financial loss associated with poor quality services, processes, or goods, e.g. repetition of work, scrap, rework, repair and warranty failure.

- **Is/Is Not**:
  - a method of root cause analysis, what is the problem and what is not the problem, followed by gathering data to establish possible causes versus non-possible causes. Using 'is/is not' is beneficial as it helps to clarify and define a problem and can help teams to share an understanding of a project. Teams and/or individuals can also benefit from this technique as it helps to find contributing factors in a problem and can define a project's scope.

Process mapping and analysis
Multiple-choice examination
Knowledge
K9 Swim lane, value stream map, performance metrics – continuous, Parameter diagram, Takt time, Overall Equipment Effectiveness, theory of constraints principles, Kanban
Assessment criteria
E20 Explain the purpose of '**swim lanes**' in flow diagrams (K9) E21 Identify the objectives of **value stream mapping** (K9) E22 Summarise the information shown in a **Parameter Diagram** (K9) E23 Explain how **Takt time** is calculated (K9) E24 Identify the three factors in **Overall Equipment Effectiveness** (K9) E25 Evaluate the **Theory of Constraints** methodology in analysing processes (K9) E26 Explain the use of the **Kanban** system in the manufacturing process (K9)
Amplification

• **Swim lane:** a swim lane shows who is responsible for each part of a process. It shows who communicates with who, handoffs between team members, etc.
  ○ used in process flow diagrams to show a process from start to finish. Visually distinguishes job sharing and responsibilities for each part of the process.
 	
• **Value stream mapping:**
  ○ a lean-management method for analysing the current state of a process and designing a future state for that process. The purpose of value stream mapping is to identify and remove, or reduce, 'waste' in value streams, thereby increasing the efficiency. Waste removal is intended to create leaner operations which in turn make waste and quality problems easier to identify.
 	
• **Parameter Diagram:**
  ○ known as a P-Diagram. This is a pictorial tool that represents the design of a system, subsystem, or component. It highlights inputs and unintended outputs, noise factors and control factors.

- **Takt time:**
  - the speed at which a product needs to be created to satisfy the needs of the customer. This ensures that each step of the process works in the most efficient manner.

- **Overall Equipment Effectiveness**:
  - a measure of how well a system or process is utilised. In manufacturing, this is broken down into availability, the percentage of time that the operation is available to run. Performance speed at which it runs as a percentage of its designed speed. Quality the number of acceptable units produced of the total units started. Availability, Performance, Quality= OEE overall equipment effectiveness.

- **Theory of constraints:**
  - a methodology for identifying the most important limitation to a business/product or service (i.e. constraint) that stands in the way of achieving a goal and then systematically improving that constraint until there are no more limitations. In manufacturing, the constraint is often referred to as a bottleneck.

- **Kanban:**
  - a visual process used to illustrate workflow, usually sorted into three columns, 'To Do, Doing, Done'.

Data analysis - basic tools
Multiple-choice examination
Knowledge
K10 Spreadsheets and pivot table analysis, statistical analysis software
Assessment criteria
E27 Explain the importance of spreadsheets and **pivot table** analysis (K10) E28 Evaluate different **statistical analysis software** (K10)
Amplification
Pivot table – a summary of data presented in a chart that allows reports to be made and explores trends based on the information. **Statistical analysis software** could include:

- SPSS Statistics
- MiniTab
- JMP
- SAS
- SigmaXL

Measurement systems
Multiple-choice examination
Knowledge
K11 Repeatability and Reproducibility principles
Assessment criteria
E29 Define the difference between **repeatability** and **reproducibility** when appraising **measurement systems** (K11)
Amplification

• **Measurement systems**:
  ○ analysis of measurement systems is an understanding of the variability observed to determine the viability of the chosen measurement system.
 	
• **Repeatability**:
  ○ needs to generate similar results for many preparations of the same sample, for example, the same location, the same measurement procedure, the same observer, etc. but can all be done by a single person.
 	
• **Reproducibility**:
  ○ a range of independent investigators can extract the same results from an experiment by following information gained from the original investigators. Different people will conduct the same experiment.

Basic statistics and measures
Multiple-choice examination
Knowledge
K12 Control charts - attribute data, principles of normality
Assessment criteria
E30 Explain the outputs of a **control chart** (K12)
Amplification
• **Control chart**:   ○ is a graph used to evaluate the stability of a process over time. This chart always has a central line which establishes the requirement, an upper line for the upper control limit and a lower line for the lower control limit. These upper and lower control limits establish an acceptable range of variance.

Data analysis – statistical methods
Multiple-choice examination
Knowledge
K13 Measures of central tendency and spread
Assessment criteria
E31 Identify the three main measures of **central tendency** (K13) E32 Evaluate the relationship between the measure of **spread** and the measure of central tendency in data analysis (K13)
Amplification
• **Central tendency**:   ○ a central or typical value for a dataset and provides information about the representative value in the distribution of data. Measures of central tendency are often called averages such as mean, median and mode. • **Spread**:

○ also known as dispersion, describes the measure of the spread of data, whether it is spread out or clustered together. Measures of spread include range, deviation and variance.

Process capability and performance
Multiple-choice examination
Knowledge
K14 Capability analysis – continuous data for normal distribution
Assessment criteria
E33 Explain the purpose of a **process capability analysis** (K14) E34 Explain why **continuous data** is used in capability analysis (K14)
Amplification
• **Process capability analysis:** ○ an important technique used to determine how well a process meets a set of specification limits. It is based on a sample of data taken from a process and usually produces an estimate of the DPMO (defects per million opportunities), and therefore an estimate of the Sigma Quality Level at which the process operates. • **Continuous data**: ○ data that can be measured that is not fixed and have an infinite number of possible values. This is used in capability analysis to assess whether a system is statistically capable of meeting the requirements or specification.

Root cause analysis
Multiple-choice examination
Knowledge
K15 Key principles including symptoms, failure-mode, potential/verified cause, critical inputs, escape point. Graphical representation of data with dot, scatter and box plots
Assessment criteria
E35 Explain the difference between **failure mode, failure cause and failure effect** (K15) E36 Explain the objective of verifying potential **root causes** of a problem (K15) E37 Evaluate the importance of understanding the **critical inputs of a process** (K15) E38 Define the term '**escape point**' in a control system (K15) E39 Identify the advantages of **visually representing data** in graphical form (K15)
Amplification

Failure mode, failure cause and failure effect:
Failure mode refers to what has failed and the ways something might fail. Failure cause refers to the reason why it's failed. Failure effect refers to the consequences of the failure.
 	
• **Escape point**:
  ○ the earliest control point in a system following the root cause of the problem that should have detected that problem but failed to do so.
 	
• **Root causes**:
  ○ root cause is the core issue or highest cause that sets off a chain reaction of cause and effect that results in the overall problem. Root cause analysis is a wide range of approaches, tools and techniques that are then used to uncover the causes of the problem. Root cause validation entails checking if the root causes are true, accurate and relevant to the problem that needs solving.
 	
Critical inputs of a process: critical input takes a simple approach to allow an organisation's individuals and organisational processes to improve activities.
 	
Visual representation of data could include:

- charts
- tables
- graphs
- maps

Advantages to visually representing data in one of these graphical forms could include:

- easily understandable
- enhance collaboration
- enhance communication
- reduce imprecision

Experimentation
Multiple-choice examination
Knowledge
K16 Active versus passive analytics, design of experiments, experiment plan
Assessment criteria
E40 Explain the difference between **active and passive analytics** (K16) E41 Describe the purpose of **design of experiments** (K16) E42 Evaluate the **purpose of designing an experiment plan** (K16)
Amplification
• **Active and passive analytics**: ○ active data is requested from an individual who actively provides this data. Passive data is gathered without the involvement of the data provider. • **Design of experiments**: ○ a systematic method to determine the relationship between variable factors affecting a process and the output of that process. It is used to understand cause-and-effect relationships and testing hypotheses.

Purpose of designing an experiment plan: to establish the effect that an independent variable has on a dependent variable or to test a hypothesis or prediction of the impact changing some variables will have on the outcome.

Identification and prioritisation
Multiple-choice examination
Knowledge
K17 Selection and **prioritisation matrix**, Failure Mode and Effects Analysis
Assessment criteria
E43 Identify factors to consider when **selecting improvement projects** (K17) E44 Summarise the purpose of **Failure Mode and Effects Analysis** (K17)
Amplification

Selecting improvement projects: considerations should be around management goals, business strategy/aims and current strategy.
• Methodologies to improvement projects could include:
  ○ Six Sigma/DMAIC
  ○ Lean Manufacturing
  ○ Plan Do Act Check
 	
• **Failure Mode and Effects Analysis**:
  ○ is a proactive systemic tool used to help anticipate what could fail in a system or process. It evaluates a process to identify where and how it might fail along with the relative impact of these identified failures.
 	
Prioritisation matrix is a tool that a company will use to prioritise the projects they are working on.

Project report, presentation and questioning		
Knowledge	**Skills**	**Behaviours**
K2 Decision-making techniques e.g. consensus, authority rule, majority rule **K4** Reporting templates, message mapping, case for change	**S1** Work in accordance with organisational controls and statutory regulations **S4** Define, sequence, plan and schedule activities with phases and milestones. Estimate effort and duration. Create and update project charter. Review progress **S5** Sponsorship contract, surface and manage resistance, build compelling narratives for change, assess change impact **S6** Select and apply a structured method and appropriate improvement tools engaging with subject matter experts to deliver business benefits **S7** Support the identification of improvement opportunity and the scoping of these projects **S8** Support development of problem/opportunity statements **S9** Support application of techniques to identify and prioritise customers, their requirements and	**B1** Continuous drive for change and encourages others to deliver results across functional areas capturing and standardising best practice **B4** Proactively seeks and acts on feedback. Reflects on performance and has a desire for development. Adapts quickly to working with new situations/stakeholders/challenges

	ensure balance against the stated and unstated needs of the business (Voice of the Business) **S10** Process map to measure and analyse flow and value. Identify interfaces, functional responsibilities and ownership. Use insight to identify potential opportunities and map future state **S11** Seek in-process waste through understanding of value within the value stream **S12** Plan, carry out and assess results of a measurement system study **S13** Develop a sampling strategy **S14** Use graphical analysis to understand distribution and stability **S15** Identify data-types and select analysis methods and tools. Assess time series data stability and analyse making relevant insight **S16** Select methods and metrics for analysis **S17** Select and apply the appropriate graphical tool dependent on the data type to identify patterns, trends and signals to establish hypothesis **S18** Plan designed experiment with clear objectives, and appropriate levels of Measurement Systems Analysis, analyse experiment data and optimise	

	S19 Identify and prioritise factors, ideas and solutions **S20** Select and apply appropriate tools for ongoing monitoring and control. Analyse and interpret control charts **S22** Identify failure modes and embed learning from improvements	

In order to gain a pass, a learner must:

PR1 Show **business benefit** to the apprentice's employer (S22)
PR2 Follow the steps of a recognised problem-solving methodology (e.g. PPS, DMAIC, 8D) with a clear flow from one step to another and supported by the application/interpretation of appropriate Lean, Six Sigma, project management and change management tools (S1, S4, S5, S6, S7, S8, S9, S10, S11, S19, S22)
PR3 Demonstrate **data-backed decision making** to support definition, measurement, analysis and improvement (S12, S13, S14, S15, S16, S17, S18, S20)
PR4 Explanation of how they chose and scoped the project (S7)
PR5 How they used each tool (S6)
PR6 How they led a **cross-functional team** during the project (K2, K4)
PR7 How they coached colleagues in the application of improvement tools (S3)

In order to gain a merit, a learner must:

PR8 Clearly explains how the outputs of each tool are used to inform the next step (S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S22)
PR9 Identifies and takes the opportunity to share and/or replicate the improvements made to one other area/system, where there are differences in the solutions/controls required to deliver successful outcomes (B1)

In order to gain a distinction, a learner must:

PR10 Identify and take the opportunity to share and/or replicate the improvements made to one other area/system, where there are differences in baseline metrics (B1)
PR11 Seeks opportunities to apply Lean, Six Sigma, project and change management tools in daily work (B4)

Amplification

PR1

- **Business benefit:**
    - a measurable outcome following a decision or action. Often measured in financial terms, qualitative measures are also used to show business benefit, staff satisfaction for example.

PR2 - ALL steps in a recognised problem-solving methodology **must** be followed, such as:

- **PPS:**
    - the eight-step approach to practical problem solving. At each stage appropriate project management tools are used according to the complexity of the problem, the root cause, and the countermeasures required.

- **DMAIC:**
    - the interconnected phases of a six-sigma project: Define, Measure, Analyse, Improve, and Control. Each step in the DMAIC Process is required to ensure the best possible results and uses a variety of tools and techniques at each stage appropriate to the problem or project.
- **8D:**
    - Eight Disciplines Problem Solving is a method to approach and to resolve problems. It focusses on product and process improvement to identify, correct, and eliminate recurring problems. It establishes a permanent corrective action based on statistical analysis of the problem and on the origin of the problem by determining the root causes.

PR3

- **Data-backed decision making:**
    - decisions made as a response to data analysis such as, problem definition, capability analysis, strategic objectives, project selection, key performance indicators. This data analysis can be descriptive, predictive or prescriptive.

PR6

- **Cross-functional team:**
    - a team made of members from different functional areas of the business such as sales, finance, human resources, production, who come together to form a project team.

Professional Discussion		
Knowledge	**Skills**	**Behaviours**
K2 Decision-making techniques e.g. consensus, authority rule, majority rule	**S2** Speak and write clearly. Influence others, question effectively. Plan and deliver meetings presenting insight to engage audiences **S3** Observe, listen, use questioning, provide feedback and spot learning opportunities **S4** Define, sequence, plan and schedule activities with phases and milestones. Estimate effort and duration. Create and update project charter. Review progress **S5** Sponsorship contract, surface and manage resistance, build compelling narratives for change, assess change impact **S18** Plan designed experiment with clear objectives, and appropriate levels of Measurement Systems Analysis, analyse experiment data and optimise **S21** Conduct structured benchmarking to support target setting	**B1** Continuous drive for change and encourages others to deliver results across functional areas capturing and standardising best practice **B2** Awareness of own and others' working styles. Creates high performing team **B3** Promotes a moral, legal and socially appropriate working manner, aligns behaviours to the organisations values. Maintains flexibility to needs of project **B4** Proactively seeks and acts on feedback. Reflects on performance and has a desire for development. Adapts quickly to working with new situations/stakeholders/challenges **B5** Ensures safety of self and others, speaks out to challenge safety issues
In order to gain a pass, a learner must:		
PD1 Continuously drives for change and encourages others to deliver results across functional areas (B1) PD2 Standardises best practice (B1) PD3 Demonstrate awareness of their own and others' working styles to create a high performing team (B2) PD4 Promote a moral, legal and socially appropriate working manner, aligned to the organisation's values (B3) PD5 Maintain flexibility to the needs of the project (B3)		

PD6	Critically evaluates own improvement journey and identifies the recommendations for improvement/change (B4)
PD7	Proactively seek and act on feedback (B4)
PD8	Reflect on performance and demonstrate the desire for development (B4)
PD9	Adapt quickly to working with new situations, stakeholders and challenges (B4)
PD10	Ensures the safety of themself and others and speaks out to challenge safety issues (B5)
PD11	Clearly explain methods used for making decisions in the project team (K2)
PD12	Clearly explain how they engaged and influenced others (S2)
PD13	Clearly explain their coaching skills by observing, listening, using questioning, providing feedback and spotting learning opportunities (S3)
PD14	Clearly explain their approach to project management (S4)
PD15	Clearly explain their approach to **change management** (S5)
PD16	Design an experiment with clear objectives to optimise a process or improve a product (S18)
PD17	Conduct a **measurement system analysis** to ensure the integrity of data collected under the experiment (S18)
PD18	Analyse the results of the experiment data to identify opportunities to optimise processes or improve products (S18)
PD19	Clearly explain their use of **benchmarking** to inform target setting and improvement options (S21)
In order to gain a merit, a learner must:	
PD20	Identifies opportunities for cross-functional improvement (B1)
PD21	Supports delivery of business-wide improvement projects led by improvement experts (B4)
In order to gain a distinction, a learner must:	
PD22	Takes the opportunity to prepare and/or deliver training to upskill colleagues (B1)
PD23	Seeks opportunities to involve others in building a continuous improvement culture (B4)

Amplification

PD15

- **Change management:**
  - a systemic approach to managing a transition from one state to another within an organisation. There are many management models in place to reference such as Kotter's 8-Step Theory, Kubler-Ross change curve, Lewin's Change Management Model, etc.

PD17

- **Measurement system analysis:**
  - seeks to show the accuracy/inaccuracy of the measurement system used in experiments or other data collection processes. MSA is focused on finding the amount of variation in a process, examining repeatability, reproducibility, precision and stability. Examples would be Gage Repeatability & Reproducibility Study (Gage R&R)

PD19

- **Benchmarking:**
  - used to select suitable metrics and targets for improvement, establishes a baseline for the project and where applicable, identifies key performance indicators at an organisational level.

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Assessment Summary

The end-point assessment for the Level 4 Improvement Technician Apprenticeship Standard is made up of 3 components.

1. 40-minute multiple-choice examination
2. Report, 40-minute presentation and 35 minutes questioning based on an improvement project
3. 60-minute professional discussion underpinned by log

The presentation and questioning around the project report and the professional discussion underpinned by log can take place on the same day. They must take place during month **two** of the end-point assessment window with a minimum of two weeks' notice period given to the employer.

The multiple-choice examination can take place at any point during the end-point assessment window.

As an employer/training provider, you should agree a plan and schedule with the apprentice to ensure all assessment components can be completed effectively.

Multiple-choice examination

The multiple-choice examination will contain 40 knowledge-based questions and have a time limit of 40 minutes.

The multiple-choice examination is an open book exam. Reference books can be used but access to the internet is prohibited.

Multiple-choice examination		
Pass	**Merit**	**Distinction**
25-29 marks	30-35 marks	36-40 marks

Project report, presentation and questioning

In order to achieve a pass in the project report, presentation and questioning:

- **all** pass criteria **must** be met

To achieve a merit in the project report, presentation and questioning:

- **all** pass criteria **and** all merit criteria **must** be met

To achieve a distinction:

- **all** pass, merit **and** distinction criteria **must** be met

Professional discussion underpinned by log

In order to achieve a pass in the professional discussion, underpinned by log:

- **all** pass criteria **must** be met

To achieve a merit in the professional discussion, underpinned by log:

- **all** pass criteria **and** all merit criteria must be met

To achieve a distinction:

- **all** pass, merit **and** distinction criteria must be met

Grading

Each assessment method will be individually graded in line with the conditions outlined above as fail, pass, merit or distinction.

Points will be awarded for each grade achieved in each individual assessment component using the table below.

Assessment component	Points awarded		
	Pass	**Merit**	**Distinction**
Multiple-choice test	10	20	30
Project report, presentation and questioning	60	120	180
Professional discussion underpinned by log	30	60	90

Points for each assessment component will be added together to determine the overall grade using the table below:

Total points achieved	Overall Grade
Below 100	Fail
100 or above	Pass
200 or above	Merit
260+	Distinction

Apprentices **must** achieve a minimum of a pass in each assessment component to pass the EPA overall.

Retake and resit information

Apprentices that fail the EPA will have the opportunity to resit/retake. A resit does not require further learning, whereas a retake does.

Apprentices who fail any **one** EPA method will be offered the opportunity to take a resit for that one method. The resit/retake must be taken within one month of notification of the result of the original EPA, otherwise, the entire EPA must be retaken.

The resit will be graded pass/merit/distinction and combined with the grades for the other 2 assessment methods to determine the EPA grade. If an apprentice fails the resit/retake, they will be required to retake the EPA in full after a period of further learning.

Resits are not available to apprentices wishing to move from pass to merit/distinction or merit to distinction.

Apprentices who fail **more than one** of the EPA methods or who have retaken the EPA in full due to conditions described above will be required to retake the entire EPA after a period of further learning and the maximum grade awarded will be 'pass' unless Highfield establishes that the reason for the original fail was for reasons beyond the apprentice's control.

In all cases, the apprentice's employer will need to agree that a resit or retake is an appropriate course of action.

When your learner is ready to complete their resit or retake, please contact the Highfield scheduling team to discuss this further. Feedback will be provided on the areas of failure and a retake checklist will need to be submitted when the professional review has taken place.

When your learner is undertaking their resit or retake, the assessment method(s) will need to be re-attempted in full, regardless of individual assessment criteria that were passed on any prior attempt. The EPA report will contain feedback on which areas there are for development along with resit or retake guidance.

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Assessing the multiple-choice examination

The multiple-choice test will contain 40 knowledge-based questions and have a time limit of 40 minutes. The pass mark for this exam is 25 out of 40.

Multiple Choice Examination		
Pass	**Merit**	**Distinction**
25-29 marks	30-35 marks	36-40 marks

The apprentice may refer to training material/reference books but may not access computer search engines or similar.

A maximum of 12 apprentices per administrator/invigilator is allowed.

Please refer to the Highfield Examination and Invigilation policy for further information regarding the ID verification process and details regarding the set-up of end-point assessments.

Before the Assessment

- While on-programme, the employer/training provider should brief the apprentice on the areas to be assessed by the multiple-choice examination.
- In readiness for the end-point assessment, the apprentice should complete a sample examination.
- A sample assessment can be found as a separate download on the Highfield Assessment website.

Multiple-choice examination criteria

Compliance	
K1 Legislative and customer compliance requirements including health and safety	E1 Explain the employers' main duties under the Health and Safety at Work Act 1974 E2 Critically evaluate the customer compliance requirements of the business

Project management	
K3 Business case, risk analysis and management, toll-gate reviews, work breakdown structure, lessons learned, pilot studies, project review, process management and measures, benefits tracking	E3 Clarify the business case through risk analysis and management E4 Describe the toll-gate review process E5 Identify the purpose of creating a work breakdown structure E6 Evaluate the use of benefits tracking in project management E7 Explain the purpose of process management when managing projects

Change management	
K5 Stakeholder identification, analysis and management (RACI). Change curve, resistance characteristics, change sponsorship, compelling point of view	E8 Identify a key benefit of applying the RACI model to managing change E9 Summarise typical responses to organisational and personal change as outlined in change curve theory E10 Outline the role of the sponsor in managing change E11 Explain how the compelling point of view can support organisational change

Principles and methods	
K6 Business value of Lean and Six Sigma improvement methods - 8D, practical problem solving, Define Measure Analyse Improve Control, Design for Six Sigma	E12 Explain the business value of Six Sigma methodology E13 Evaluate the importance of DMAIC phases in Lean Six Sigma problem solving E14 Summarise the purpose of the 8D approach to problem-solving E15 Explain the main principles and business value of Lean

Project selection and scope	
K7 Y=f(x) equation (outputs are the result of inputs), business scorecard cascade	E16 Interpret the use of Y=f(x) equation in determining project selection E17 Explain the benefits of cascading the balanced scorecard through the business through teams, and to individuals.

Problem definition	
K8 Cost of poor quality, problem analysis models such as Is/Is Not	E18 Define the meaning of cost of poor quality E19 Evaluate different problem analysis models, for example, Is/Is Not

Process mapping and analysis	
K9 Swim lane, value stream map, performance metrics – continuous, Parameter Diagram, Takt time, Overall Equipment Effectiveness, Theory of Constraints principles, Kanban	E20 Explain the purpose of 'swim lanes' in flow diagrams E21 Identify the objectives of value stream mapping E22 Summarise the information shown in a Parameter Diagram E23 Explain how Takt time is calculated E24 Identify the three factors in Overall Equipment Effectiveness E25 Evaluate the Theory of Constraints methodology in analysing processes E26 Explain the use of the Kanban system in the manufacturing process

Data analysis - basic tools	
K10 Spreadsheets and pivot table analysis, statistical analysis software	E27 Explain the importance of spreadsheets and pivot table analysis E28 Evaluate different statistical analysis software

Measurement systems	
K11 Repeatability and Reproducibility principles	E29 Define the difference between repeatability and reproducibility when appraising measurement systems

Basic statistics and measures	
K12 Control charts - attribute data, principles of normality	E30 Explain the outputs of a control chart

Data analysis - statistical methods	
K13 Measures of central tendency and spread	E31 Identify the three main measures of central tendency E32 Evaluate the relationship between the measure of spread and the measure of central tendency in data analysis

Process capability and performance	
K14 Capability analysis – continuous data for normal distribution	E33 Explain the purpose of a process-capability analysis E34 Explain why continuous data is used in capability analysis

Root cause analysis	
K15 Key principles including symptoms, failure-mode, potential/verified cause, critical inputs, escape point. Graphical representation of data with dot, scatter and box plots.	E35 Explain the difference between failure mode, failure cause and failure effect E36 Explain the objective of verifying potential root causes of a problem E37 Evaluate the importance of understanding the critical inputs of a process E38 Define the term 'escape point' in a control system E39 Identify the advantages of visually representing data in graphical form

Experimentation	
K16 Active versus passive analytics, design of experiments, experiment plan	E40 Explain the difference between active and passive analytics E41 Describe the purpose of design of experiments E42 Evaluate the purpose of designing an experiment plan

Identification and prioritisation	
K17 Selection and prioritisation matrix, Failure Mode and Effects Analysis	E43 Identify factors to consider when selecting improvement projects E44 Summarise the purpose of Failure Mode and Effects Analysis

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Assessing the project report, presentation and questioning

During the 14-18 months leading up to the EPA, the apprentice should have been working on improvement projects and as such, should have produced a project portfolio that details the projects they have been part of.

The project portfolio will then be used by the apprentice to assist them in writing and producing a project report about the improvement project(s) they have been involved with.

The project report is to be submitted to Highfield by the apprentice within one month following gateway.

The improvement project **must**:

- **clearly** demonstrate delivery of a business improvement benefit
- the report will be authorised with a signed statement from the line manager to confirm the project's authenticity and business benefit
- follow each step of **one** of the recognised improvement methodologies
- have been completed in the apprentice's workplace
- address a fundamental business problem

In order to achieve a pass in the project report, presentation and questioning:

- **all** pass criteria **must** be covered

To achieve a merit in the project report, presentation and questioning:

- **all** pass criteria **and** all merit criteria **must** be covered

To achieve a distinction:

- **all** pass, merit **and** distinction criteria **must** be covered

Project Brief

The apprentice should be involved in a substantive improvement project that allows them to meet the assessment criteria assigned to this assessment component. The project should involve collaborating with others to identify and analyse failure modes, i.e. the way the failure occurs and its impact. From this, the apprentice should generate appropriate corrective actions for reducing the occurrence of failure modes or improving their detection and continue to work with others to determine the effectiveness of the corrective actions taken.

The project should be suitably planned, in accordance with the sector statutory regulations and organisational policies and controls regarding decision making, finance and legal compliance. A project plan should be developed, as should a project charter, based on initial analysis and lessons learned to meet the project deliverables.

The apprentice should select and make use of recognised tools and models to obtain and use data and information, and make use of appropriate techniques (failure mode, effects analysis, affinity grouping and selection and prioritisation matrix) to identify and prioritise factors, ideas and solutions.

The project should demonstrate application of appropriate lean techniques (e.g. 5S, standard work, Kaizen, error proofing tools and value stream mapping) to analyse processes and their value to the customer, and identify and categorise waste in the process.

The apprentice should prepare for, plan and run a controlled analysis to check the repeatability/reproducibility, and analyse the results of the study and determine the root cause of any problems. There should be clear demonstration of data-backed decision making to support experimentation and optimisation.

This assessment component is made up of **3** parts:

1. **Project report**

The project report must be produced during the end-point assessment period and submitted to Highfield within 1 month of the gateway meeting, detailing a substantive improvement project they were part of during the on-programme time, which will be confirmed in writing by their employer. The end-point assessor will read the project report prior to the presentation and questioning.

The report **must** follow each step of **one** of the recognised problem-solving methodologies e.g. 'Define, Measure, Analyse, Improve, Control' (DMAIC), '8 Disciples' (8D), 'Practical Problem Solving', etc.

The report should:

- be a concise, visual summary
- follow the principles of 'A3 Thinking'
- convey key points in a way that enables messages to be grasped 'within 3 seconds'
- be typically 1 to 3 sides of A3
- include any support documents in an annexe which **must** be submitted with the report and which **must** be distinct from documents included in the project portfolio

The apprentice should clearly explain:

- the reasons for project selection
- how each improvement tool was used
- the business benefit of the project including a key performance indicator measure (for example, hours saved or money saved)
- how the apprentice worked with a team of people during this project

The project report **must** be authorised by the means of a signed authenticity document from the apprentice's line manager to confirm authenticity and business benefit.

The written submission sheet that is available to download on the Highfield website **must** be completed and signed by the apprentice and the employer. This submission sheet must accompany the project report when it is submitted. The assessment component cannot proceed without the written submission sheet being signed.

2. Presentation

The apprentice will have to produce a presentation based on the project report and deliver this to the end-point assessor who will then be able to question the apprentice based upon the information contained in the presentation.

There is no word or content restriction in the presentation but, it must follow each step of one of the recognised problem-solving methodologies.

The presentation **must** also be authorised by means of a signature from the apprentice's line manager confirming authenticity and business benefit.

The presentation must last for no more than 40 minutes.

A representative of the apprentice's employer must be present during the presentation but only for the purpose of confirming the validity of the information provided. The assessment component cannot proceed if a representative of the employer is not present.

The employer representative can also provide guidance to the assessor regarding company policy and practice where requested. Internal or external quality assurance staff may also be present.

Presentation format

It is up to the apprentice how this information is presented. It can be presented in any format; acceptable forms of presenting include:

- PowerPoint
- a large copy of the project 'A3' report
- images
- charts

3. Questioning

The apprentice **must** bring their project portfolio of evidence and all necessary materials to the presentation and questioning. If the apprentice does not bring their

project portfolio of evidence to the questioning element of this assessment, then the assessment would need to be rescheduled.

For each of the required criteria that are not naturally evidenced through the report and presentation, the end-point assessor will need to ask follow-up questions to elicit evidence that the criteria have been attained.
The questioning will last for no more than 35 minutes.

Example questions:

- Team formation and leadership
    - how would you lead a cross-functional team undertaking an improvement project
- Coaching
    - how have you coached colleagues to apply improvement tools
- Change management
    - tell me about possible barriers to change and how Force Field analysis affects this

Before the assessment:

- The apprentice must complete a project report based on the improvement project they have been a part of during their time on-programme
- The project report must be submitted to Highfield Assessment within one month following the gateway meeting. The presentation will take place within month 2 and the apprentice will be given a minimum of 2 weeks' notice of when the presentation will be.
- The apprentice must create a presentation around the content contained in the project report
- Employers/training providers should discuss any relevant improvement projects that have been implemented within the business over the on-programme duration that the apprentice has been present

Employers/training providers should:

- ensure the apprentice knows the date, time and location of the end-point assessment
- encourage the apprentice to reflect on their experience and learning on-programme to understand what is required to meet the standard
- inform Highfield of the apprentice's selected method of presentation
- prepare/check any/all equipment necessary to enable to apprentice to present

Project report, presentation and questioning mock assessment

It is the employer/training provider's responsibility to prepare apprentices for their end-point assessment, and Highfield recommends that the apprentice completes a mock presentation and experiences the mock questioning in preparation for the real thing. The most appropriate form of mock assessment will depend on the resources available and the industry the apprentice has been working on improvement projects on. The apprentice should be encouraged to practice their improvement project presentation with the employer/training provider before the end-point assessment.

In designing a mock assessment, the employer/training provider should consider the following elements in its planning:

- the subject of the mock presentation should be a real improvement project that the apprentice has been a part of
- the report must show a clear business benefit to the employer
- the presentation can be in any format but must be a concise visual summary
- the key points of the presentation must be grasped within 3 seconds
- apprentices must clearly explain the reasons why they chose the selected project, how each improvement tool was used, the business benefit of the project including a key performance indicator measure (hours saved, money saved, efficiency increase) and how the apprentice worked with a team of people during the project
- the project must follow one of the recognised problem-solving methodologies
- a 75-minute time slot should be made available for the complete presentation and questioning (maximum of 40 minutes for the presentation and maximum of 35 minutes for questioning) if it is intended to be a complete mock observation covering all relevant standards. However, this time may be split up to allow for progressive learning.
- consider a video recording of the mock assessment, and allow it to be observed by other apprentices, especially if it is not practicable for the employer/training provider to carry out a separate mock assessment with each apprentice
- ensure that the apprentice's performance is assessed by a competent trainer/assessor, and that feedback is shared with the apprentice to complete the learning experience; the mock assessment sheets found on the Highfield Assessment website can be used for this purpose

Project report, presentation and questioning criteria

The presentation and questioning will last for a total of 75 minutes, during which the following standards should be evidenced. Apprentices should prepare for this by ensuring their project report covers the criteria below and that they can speak comfortably for up to 40 minutes about this in the presentation.

Project report, presentation and questioning pass criteria	
PR1	Show business benefit to the apprentice's employer (S22)
PR2	Follow the steps of a recognised problem-solving methodology (e.g. PPS, DMAIC, 8D) with a clear flow from one step to another and supported by the application/interpretation of appropriate Lean, Six Sigma, project management and change management tools (S1, S4, S5, S6, S7, S8, S9, S10, S11, S19, S22)
PR3	Demonstrate data-backed decision making to support definition, measurement, analysis and improvement (S12, S13, S14, S15, S16, S17, S18, S20)
PR4	Explanation of how they chose and scoped the project (S7)
PR5	How they used each tool (S6)
PR6	How they led a cross-functional team during the project (K2, K4)
PR7	How they coached colleagues in the application of improvement tools (S3)

Project report, presentation and questioning merit criteria	
PR8	Clearly explains how the outputs of each tool are used to inform the next step (S7, S8, S9, S10, S11, S12, S13, S14, S15, S16, S17, S18, S19, S20, S22)
PR9	Identifies and takes the opportunity to share and/or replicate the improvements made to one other area/system, where there are differences in the solutions/controls required to deliver successful outcomes (B1)

Project report, presentation and questioning distinction criteria	
PR10	Identify and take the opportunity to share and/or replicate the improvements made to one other area/system, where there are differences in baseline metrics (B1)
PR11	Seeks opportunities to apply Lean, Six Sigma, project and change management tools in daily work (B4)

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Assessing the professional discussion underpinned by log

The apprentice must complete a log that details all of the training, learning and workshops they have attended. This log will be completed during the on-programme part of the apprenticeship.

The log **must** be submitted to Highfield at Gateway. The log is reviewed by the end-point assessor before the professional discussion takes place.

The apprentice must bring a copy of their log to the professional discussion to show the assessor extracts if necessary.

The assessment component **cannot** proceed if the apprentice does not bring their log to the discussion.

The evidence produced is mapped holistically so that one piece of evidence may cover more than one standard set for the professional discussion.

The log will typically reference between 13 and 15 pieces of evidence. The log will then be used as the focal point of the professional discussion and as such will not be assessed in itself as a separate assessment method.

The independent assessor will ask the apprentice between 13 and 15 open questions relating to the log and can if deemed necessary, ask further follow-up questions for clarification to elicit evidence that all the required standards have been attained.

The apprentice will be asked, with reference to their CPD log to explain how the criteria set out below were practically achieved.

Example open questions that might be used could include:

- describe your role in the improvement team
- give me an example of where best practice was shared with others
- what was the objective of working independently
- how did you identify own your strengths and areas for improvement

The professional discussion must not last any longer than 60 minutes.

A representative of the apprentice's employer must be present during the presentation but only for the purpose of confirming the validity of the information provided. Internal or external quality assurance staff may also be present.

The assessment component **cannot** proceed if a representative of the employer is not present.

The grades available are fail, pass, merit and distinction.

In order to achieve a pass in the professional discussion, underpinned by log:

- **all** pass criteria **must** be covered

To achieve a merit in the professional discussion, underpinned by log:

- **all** pass criteria **and** merit criteria must be covered

To achieve a distinction:

- **all** pass, merit **and** distinction criteria must be covered

Before the Assessment

The log must be submitted to Highfield at the gateway meeting and will be reviewed but not assessed by the end-point assessor before the professional discussion.

Employers/training providers should ensure:

- the availability of quiet and private rooms suitable for all of the end-point assessments to take place with chairs and a standard or larger sized desk available for each apprentice
- that appropriate reasonable adjustments are made with Highfield if an apprentice is declared to the employer as having special needs
- that the apprentice is encouraged to reflect upon their experiences from their on-programme time and how this is relevant to the criteria
- the apprentice is aware of the date/time and location of the assessment
- the apprentice knows which assessment criteria they will be assessed on

It is suggested that a mock assessment is carried out by the apprentice in advance of the end-point assessment with the training provider/employer giving feedback on any areas for improvement.

Professional discussion mock assessment

It is the employer/training providers responsibility to prepare apprentices for their end-point assessment, and Highfield recommends that the apprentice completes a mock professional discussion in preparation for the real thing. The most appropriate form of mock assessment will depend on the resources available and the industry the apprentice has been working on improvement projects.

When planning a mock assessment, the employer/training provider should include the following elements:

- a 60-minute time slot must be made available for the professional discussion
- make sure the mock professional discussion takes place in a suitable location
- consider audio or video recording of the mock professional discussion and allow it to be available to other apprentices, especially if it is not practicable for the employer/training provider to carry out a separate mock assessment with each apprentice
- ensure that the apprentice's performance is assessed by a competent trainer/assessor and that feedback is shared with the apprentice to complete the learning experience; the mock assessment sheets found on the Highfield Assessment website can be used for this purpose

The employer/training provider can ask up to 15 open questions and can ask follow-up questions if necessary, for clarification to elicit evidence that the criteria have been attained.

The apprentice must be asked open questions with reference to their log to explain how the criteria have been achieved. For example:

- explain what methods you used to help you make decisions in the team
- what did you consider in the creation and subsequent review of the project charter
- what approach did you make use of when managing the project
- in what ways does your project management differ to that of your colleagues
- how did benchmarking provide you with improvement options
- why was the benchmarking process important in target setting
- how did benchmarking help you

The apprentice will discuss and present the evidence of their training, learning and workshops undertaken.

The log should:

- clearly demonstrate the completion of any training, learning, and workshops attended
- ensure that there is a minimum of one piece of evidence for each required criteria

Professional discussion criteria

During the professional discussion, which will last for 60 minutes, the following standards should be evidenced. Apprentices should prepare for the professional discussion by considering how the criteria can be met and by reviewing the evidence contained within their log.

Professional discussion pass criteria	
PD1	Continuously drives for change and encourages others to deliver results across functional areas (B1)
PD2	Standardises best practice (B1)
PD3	Demonstrate awareness of their own and others' working styles to create a high performing team (B2)
PD4	Promote a moral, legal and socially appropriate working manner, aligned to the organisation's values (B3)
PD5	Maintain flexibility to the needs of the project (B3)
PD6	Critically evaluates own improvement journey and identifies the recommendations for improvement/change (B4)
PD7	Proactively seek and act on feedback (B4)
PD8	Reflect on performance and demonstrate the desire for development (B4)
PD9	Adapt quickly to working with new situations, stakeholders and challenges (B4)
PD10	Ensures the safety of themself and others and speaks out to challenge safety issues (B5)
PD11	Clearly explain methods used for making decisions in the project team (K2)
PD12	Clearly explain how they engaged and influenced others (S2)
PD13	Clearly explain their coaching skills by observing, listening, using questioning, providing feedback and spotting learning opportunities (S3)
PD14	Clearly explain their approach to project management (S4)
PD15	Clearly explain their approach to change management (S5)
PD16	Design an experiment with clear objectives to optimise a process or improve a product (S18)
PD17	Conduct a measurement system analysis to ensure the integrity of data collected under the experiment (S18)
PD18	Analyse the results of the experiment data to identify opportunities to optimise processes or improve products (S18)
PD19	Clearly explain their use of benchmarking to inform target setting and improvement options (S21)

Professional discussion merit criteria	
PD20	Identifies opportunities for cross-functional improvement (B1)
PD21	Supports delivery of business-wide improvement projects led by improvement experts (B4)

Professional discussion distinction criteria	
PD22	Takes the opportunity to prepare and/or deliver training to upskill colleagues (B1)
PD23	Seeks opportunities to involve others in building a continuous improvement culture (B4)

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