JSP 822
Defence Direction and Guidance for Training and Education
Part 2: Guidance
Foreword

1. This Part 2 of JSP 822 provides Guidance in accordance with the policy set out in Part 1; the Guidance is sponsored by the Chief of Defence People, the Defence Authority for People. It provides policy-compliant business practices which should be considered best practice in the absence of any contradicting instruction. However, nothing in this document should discourage the application of sheer common sense.

2. In order to give the Guidance context, it has been necessary to repeat some of the Direction from Part 1 in Part 2. Where terms such as ‘must’, ‘mandated’ and ‘are to’ are seen in the Guidance, the reader should assume that this has been taken from the Direction and that what is being described, therefore, are not an optional activities.
Preface

How to use this JSP

1. JSP 822 provides the Defence Direction and Guidance for both individual and collective training, and for education. Whilst the terms ‘training’ and ‘education’ are used in their own right in the JSP, the term ‘training’ is sometimes used to avoid repetition. In these instances the term ‘training’ encompasses any training, education, learning or development, both individual and collective, which is designed to meet the needs of a Training Requirements Authority. This JSP will be reviewed at least annually and any significant changes will be endorsed at the Training, Education, Skills, Recruiting and Resettlement Policy and Assurance Group (TESRR PAG).

2. The JSP is structured in two parts:

   a. Part 1 - Directive, which provides the Direction that must be followed in accordance with statute or policy mandated by Defence or on Defence by Central Government.

   b. Part 2 - Guidance, which provides the Guidance and best practice that will assist the user to comply with the Directives detailed in Part 1.

3. All personnel with a part to play in DSAT-derived training and education must read Part 1, Chapter 1, Section 1.1 which discusses the Management of Training System (MTS) and details the mandated MTS activities. Depending on whether the reader has an interest in individual training or collective training, Part 1, Chapter 2, Section 2.1 or Part 1, Chapter 3, Section 3.1, should be read. Part 1, Chapter 2, Section 2.1 details the mandated activities for individual training. For a detailed Overview of DSAT, Part 2, Chapter 1, Section 1.1, should be read.

4. The JSP uses colour coding throughout to differentiate between the Elements, activities and responsibilities in the DSAT process. It is recommended that the document is printed out in colour or accessed on a computer. Additionally, the numbered DSAT Inventory of Activities diagram, which has been designed to assist personnel in working through the JSP, is best viewed on a large screen or printed off on A3. Further details on the colour coding and the numbering system are given in the Direction and Guidance.

5. The Guidance builds up incrementally, first with an Overview of DSAT and then a much more detailed section on each of the DSAT Elements and the supporting MTS requirements. Accordingly, there is some deliberate repetition in the Guidance.

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1 As a rule of thumb, all training, education, learning and development activity, where Government resource is being spent, is to be governed by DSAT. Training for operations, Defence Engagement activities, through-career education courses such as IGSC, ACSC and in-Service degrees are included as such requirements are to be controlled via a Customer Executive Board and appear on a Statement of Trained Requirement. Notably, activities procured through the SLC/ELC schemes, the Direction for which is in this JSP, are not subject to DSAT as they have their own governance processes. Note: the definitions of terms used in this JSP are contained in Part 2, Guidance, Chapter 4, Section 4.1, Defence Definitions for Training.

2 A list of mandated activities for collective training has not yet been devised. The Collective Training Policy at Part 1, Chapter 3, Section 3.1, will be reviewed to assess which activities will be deemed mandatory.
Coherence with other Defence Authority Policy and Guidance

6. Where applicable, this document contains links to other relevant JSPs, some of which may be published by different Defence Authorities. Where particular dependencies exist, these other Defence Authorities have been consulted in the formulation of the policy and Guidance detailed in this publication. Note that some of the JSPs relate to the Defence Training and Education Leaflets which can be found on a link on the JSP 822 website on the Defence Intranet.

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Training

7. There is no specific requirement to undertake training in order to make use of this JSP. It has been written with the newcomer to Defence training and education and DSAT in mind. Specific courses relating to DSAT are available at the Defence Centre of Training Support (DCTS), part of the Defence Academy. Any personnel whose day-to-day work requires practical application of DSAT should undertake the relevant training to ensure they are proficient in the execution of their Role.

Further Advice and Feedback – Contacts

8. The owner of this JSP is TESRR, CDP, MoD. For further information on any aspect of this JSP, or questions not answered within the subsequent Chapters, or to provide feedback on the content, contact:

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<td>SO1 Policy (People-TESRR-TrgPolicy SO1)</td>
<td>First publication after major revision.</td>
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<td>Mar 16</td>
<td>SO1 Policy (People-TESRR-TrgPolicy SO1)</td>
<td>Minor revision to give further Direction on audit and to correct typos.</td>
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<td>Dec 16</td>
<td>SO1 Policy (People-TESRR-TrgPolicy SO1)</td>
<td>Merging of JSP 898 and JSP 822 and minor revisions to bring JSP 898 terminology into line with JSP 822 2015 revision.</td>
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<td>Mar 17</td>
<td>SO1 Policy (People-TESRR-TrgPolicy SO1)</td>
<td>Agreed amendments to Part 1, Chapter 4, Section 4.1 and Part 1, Chapter 6, Sections 6.2 and 6.6. Reference to Children and Young Persons Act 2008 added to Part 1, Chapter 2, Section 2.4. Addition of Part 1, Chapter 4, Section 4.2.</td>
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<td>Apr 17</td>
<td>SO1 Policy (People-TESRR-TrgPolicy SO1)</td>
<td>Subsuming of DTSM 8 (Delivery of Training) into Part 2, Chapter 1, Section 1.4 (Delivery).</td>
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<td>Jul 18</td>
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1 Defence Guidance for DSAT

1.1 Overview of the DSAT process

Policy Sponsor: TESRR, CDP

The DSAT process comprises activities relating to the training analysis, design, delivery and assurance of all Defence training, both individual and collective, across the Whole Force. In the context of this JSP, ‘training’ encompasses any training, education, learning or development, both individual and collective, that is designed to meet the needs of a Training Requirements Authority.

DSAT ensures that the training of our personnel contributes directly to Defence outputs and mitigates the risk that it may fail to do so. When applied correctly, DSAT will deliver training that is:

- Appropriate to the training need;
- Cost-effective;
- Accountable;
- Safe;
- Risk-focussed.

Scope

1. This Overview is designed to aid general understanding of the DSAT process through a simplified explanation. Chapter 1, Section 1.1 (Management of Training System) of Part 1 (Direction) should be read before reading this Overview. Additionally, the Direction relating to individual and collective training (Part 1, Chapter 1, Sections 2.1 and Chapter 3, Section 3.1) should also be read dependent upon whether the reader’s focus is the individual or collective training domain. More detailed Defence Guidance on each Element of the DSAT process is given in Sections of this Chapter.

Aim

2. This Overview will assist in painting a broad picture of what DSAT is, how it is designed to work, and why, so that new users of DSAT can gain an initial understanding that puts the detail contained within the subsequent Sections into context.

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3 Training, Education, Skills, Recruitment and Resettlement, part of Chief of Defence People, 6th Floor, MoD Main Building.

4 In the context of JSP 822, an ‘activity’ is any single process or output product of the DSAT.

5 The Whole Force encompasses Regular and Reserve personnel, MOD Civil Servants and civilians, including contractors. It is noted that training sourced through the pan-Governmental ‘Civil Service Learning’ is not subject to DSAT. Any other Civil Service training must be compliant with DSAT.

6 As a rule of thumb, all training, education, learning and development activity, where Government resource is being spent, is to be governed by DSAT. Training for operations, Defence Engagement activities, through-career education courses such as ICSC, ACSC and in-Service degrees are included as such requirements are to be controlled via a Customer Executive Board and appear on a Statement of Trained Requirement. Notably, activities procured through the SLC/ELC schemes are not subject to DSAT as they have their own governance processes.
DSAT in detail

3. To make the detailed nature of the DSAT process understandable, it has been broken into 4 colour-coded Elements7 (plus management and governance activities which run through the entire process8), which are:

   a. **1 - Analysis.** Element 1 is the Training Needs Analysis (TNA) (What is the requirement; is a new or amended training activity needed; and, if so, what kind?). It is a 3-stage process that begins with the production of a Scoping Exercise Report, and then carries out the analysis, and finishes (at Element 4, Assurance) with a Training Needs Evaluation (TNE). In Stage 2 there are different approaches to the analysis for individual and collective training. The TNA is the responsibility of the TRA9.

   b. **2 - Design.** Element 2 is Design (What should the training activity look like; who will deliver it, and with what resources?). Design is a 3-stage process where the design of the training activity is completed. Responsibility for design is broadly split between the TRA and TDA.

   c. **3 - Delivery.** Element 3 is the practical Delivery of the training (The training activity is delivered). It is therefore principally the responsibility of the Training Provider.

   d. **4 - Assurance.** Element 4 is Assurance (Is the training activity being delivered correctly and does it meet the requirement? Is the whole Training System fit for purpose?) It is made up of evaluation, audit and inspection activities, which are conducted both internally and externally, and ensure that training activities meet the principles of the DSAT process. This function involves most stakeholders, from the Training Provider at one end to Ofsted at the other.

   e. **5 - MTS.** Integral to the 4 elements of analysis, design, delivery and assurance is the need to ensure that the DSAT process and the resultant Training System is properly governed and managed and meets the high standards required for training in Defence. The governance, management and assurance (Element 4) of training are collectively known as a MTS. A MTS is not a document that is filed away once training starts, to be pulled out during inspections. In fact, it is not a document at all. It is an iterative mechanism to ensure that the training being delivered remains meaningful and continues to contribute to delivering Defence effect. When delivered correctly, the outputs of the DSAT Elements, combined with the MTS, deliver a Training System that meets the required Quality Management Standard (QMS). For the MTS to be effective, bodies such as boards and working groups must be established to ensure that the DSAT process remains on track and the Training System remains appropriate to the need. Key DSAT documentation must also be produced and how to do so is explained later in this Guidance. As an integral part of the MTS, activities that directly contribute to meeting the QMS are also embedded within each Element. The MTS mostly draws in products from the DSAT process (to avoid duplication) in order to record and demonstrate that the QMS is being met. All stakeholders of the Training System will have some involvement in the MTS.

4. All Training Systems are unique. Accordingly, the DSAT process has not been designed to be prescriptive or constraining. Users may choose to skip individual activities if

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7 Analysis (green); design (pink); delivery (orange) and assurance (purple).
8 Denoted on the Inventory of DSAT Activities in blue, with numbering beginning with 5.
9 Whilst the TRA may not undertake the TNA, the TRA is responsible for accepting it.
they are not required for the specific training need that has been identified provided that mandated Analysis, Design and Delivery activities and the mandated MTS activities are undertaken\textsuperscript{10}. The DSAT process is designed as a generic decision making process and can be used for equipment-based, or non-equipment training needs.

5. Where discrete elements of the DSAT process are outsourced to contractors, the exact requirement should be captured in the commercial framework – the contract – in order to ensure that commercially required DSAT activities are not missed. See Part 1, Chapter 1, Section 1.1 for further Direction.

How does the DSAT process work?

6. Although not a linear process (particularly the functions of the MTS) for simplicity, the DSAT process can be described as a series of activities that are conducted in order. No two DSAT processes are the same and so the nature of the need determines which, how, and in what order, DSAT activities are conducted. Equally, once the analysis and design is complete, delivery, assurance, governance and management become ongoing, complementary activities. Figure 1 provides a top level view of the activities which are then briefly described. Subsequent Sections provide more detailed Guidance to each Element of the DSAT process.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{DSATActivities.png}
\caption{Top Level DSAT Activities\textsuperscript{11}}
\end{figure}

\textsuperscript{10} It is recognised that, in the cases of Urgent Operational Requirements, it may not be possible to complete all the mandated DSAT activities prior to training commencing. This is recognised but must not be an excuse for inactivity. A CEB must be established as soon as practicable to ensure the correct management, governance and assurance of the training.

\textsuperscript{11} The colours chosen to differentiate between the 4 Elements in Figure 1 are used throughout this JSP. Analysis activity is depicted in green; Design in pink; Delivery in orange and Assurance in purple. MTS management and governance activities are in blue.
7. **Statement of Requirement (SOR) – 5.1.** The DSAT process will begin with a SOR which states that there is a (real or perceived) need for personnel to have specific Knowledge, Skills and Attitudes (KSA) due to a **new or changed** requirement. An SOR may necessitate a change to an existing training activity, or require a completely new training activity to be designed, both of which require the use of the DSAT process. It may also result in no change to any training.

8. **Element 1 (Analysis): What is the requirement; is a new or amended training activity needed; and, if so, what kind?** (For the detailed inventory of activities for Element 1, see Figure 2). It is expected that the TRA will be broadly responsible for conducting Element 1.

![Figure 2: DSAT Element 1 (Analysis)](image)

**a. TNA Steering Group (TNASG) – 1.1.** To ensure validity, the TNA process and outputs are governed by a dedicated steering group representing all stakeholders. The TNASG manages the TNA via the production and maintenance of a Training Support Plan (TSP). Further details on the TSP are contained in Part 2, Chapter 1, Section 1.2.

**b. TNA, Stage 1 - Scoping Exercise Report – 1.2.** This identifies the management of the TNA, programming and resourcing issues, policies, constraints, risks and assumptions. The key output is the Scoping Exercise Report (which recommends possible training solutions, or that no training is required).

**c. Raise Training Authorisation Document (TrAD) – 5.2.** A TrAD must be raised at the end of the scoping exercise stage (Element 1 (Analysis), Stage 1: Scoping Exercise Report (1.2 to 1.2.4)), once a training need has been identified. The TrAD is then populated as the process progresses and is submitted to the appropriate governance body (CEB or CEB WG) for endorsement later in the process (5.9). The TrAD must be revised or renewed as the situation dictates. Records of all TrADs and any amendments must be retained by the TRA.
d. **TNA, Stage 2.**

(1) **Role Analysis (RA) – 1.3A.** This identifies the role(s) that need to be trained for, the supporting duties, tasks, sub-tasks and task-elements, then analyses these to generate Performances, Conditions and Standards. The key output is the Role Performance Statement (Role PS).  \(^{12}\)

(2) **Training Gap Analysis (TGA) – 1.4A.** This states the training gaps in terms of KSA. The key outputs are the Statements of Training Gaps.

(3) **Draft Training Objectives (TOs) – 1.5A.** This is an initial draft of the TOs based upon the Role PS which are the key outputs. It may be that the draft TOs created at this stage are sufficient and do not need further refinement but they are certainly not endorsed at this stage.

(4) **Training Options Analysis (TOA) – 1.6A.** The TOA considers each relevant Task in the Role PS to assess the extent to which the training environment should replicate the workplace (real) environment to enable training to be effective. This is known as the Fidelity Analysis. The implications of locations and environment for training and Methods & Media options are then considered. The key outputs are the realistic options for Methods & Media and refinement (based upon fidelity, locations and environment) of the possible training solutions. Cost-effective options which take account of Whole Life training requirements (including refresher training) are considered.

(5) **Team/Collective Task Analysis (TCTA) – 1.3B.** This is to gain an understanding of the extent of team or collective tasks in order to define the performance. The key output is the Team PS.

(6) **Overlay Analysis (OA) – 1.4B.** This is an appreciation of the training functions, methods and support that are necessary to design and deliver the training of the tasks.

(7) **Draft Collective Training Objectives (CTOs) – 1.5B.** This is an initial draft of the CTOs based upon the Team PS, which are the key outputs.

(8) **Environment Analysis (EA) – 1.6B.** This specifies the requirements for training environments and then identifies possibilities to meet these.

(9) **Training Needs Report – 1.7.** For both individual and collective training, the Training Needs Report analyses the cost-benefits and then evaluates the merits of the training options, before confirming the TNASG endorsed training solution. The report includes the Role/Team PS. The key output is a recommendation as to the most cost-effective training solution, which inputs into the Statement of Trained Requirement (SOTR). An implementation plan is also included.

ey. **Risk/assumption management – 5.3.** Risk/assumption management must start at the beginning of the DSAT process during TNA Stage 1 (1.2.4). Risks/Assumptions are to be held on risk/assumption registers at all levels (e.g.

\(^{12}\) The term Role PS replaces Operational Performance Statement (OPS). The logic being that the word ‘operational’ can cause confusion with training for operations, particularly when considered in relation to collective training.
training establishment, Service Command or Service Command’s subordinate training HQ) and are to be managed in accordance with Defence risk management policies. Risks/Assumptions must be reviewed regularly during all Elements of the DSAT process and updated with any new and emerging risks.

f. Pipeline management – 5.4. Pipeline management ensures that sufficient personnel of the correct branches and/or trades enter training on the Untrained Strength (UTS), and subsequently single Services (sS), as Gains to Trained Strength (GTS) in order to meet the manpower requirement of each Service. At Phase 3, pipeline management ensures that the correct numbers of personnel enter training to sustain the requirements of each branch and/or trade. The sS should engage and negotiate with TDAs and training establishments, through the CEBs, in pursuit of an efficient and effective pipeline. Pipeline management applies equally to collective training, in terms of formed teams, units and formations, but it is to individual training that this activity is particularly relevant.

g. SOTR – 5.5. The SOTR identifies the trained output required by the employing Service Command (or Customer), by year, for a period of 4 Training Years. It is produced by the Service Command SOTR Co-ordination Organisation13, who own and develop it with key stakeholders. The aim of the process is to develop an accurate SOTR before the commencement of the Training Year (TY).

9. Element 2 (Design): What should the training activity look like; who will deliver it, and with what resources? (For the detailed inventory of activities for Element 2, see Figure 3). It is expected that the TDA will be broadly responsible for conducting Element 214.

Figure 3: DSAT Element 2 (Design)

a. Trained Output Requirement Review – 5.6. A Trained Output Requirement Review takes place to ensure that, based on the Role/Team PS and the draft TOs/CTOs, the training requirement would still be met.

b. Design Stage 1.

   (1) TOs/CTOs – 2.1. Design Stage 1 determines the TOs/CTOs (based upon the Performance, Condition, Standards criterion set out in the Role/Team PS), based upon the draft TOs/CTOs produced during Element 1 (TNA Stage 2, 1.5A/B).

13 Each Service or Joint Command that generates a Training requirement should have a single organisation that is responsible for capturing and co-ordinating the entirety of that requirement.

14 It has already been stated that this JSP is designed for the Whole Force. However, it is worth noting that Reservists are constrained to an annual allocation of Man Training Days and these are invariably dovetailed between busy civilian employment and family commitments. Those designing training for Reservists should bear the differences between Regular and Reserve Service in mind.
(2) **Formal Training Statement (FTS)** – 2.2. The FTS details the totality of the training that must be achieved to meet the requirements articulated in the Role/Team PS. The FTS is made up of a Training Performance Statement (TPS), a Workplace Training Statement (WTS), and a Residual Training Gap Statement (RTGS). The TPS details the TOs/CTOs that are managed and/or delivered by the TDA. The WTS details the TOs/CTOs that are managed and/or delivered by the employing unit. The RTGS details elements of the Role/Team PS that have not been allocated to any training activity (the gap).

(3) **Enabling Objectives (EOs) and Key Learning Points (KLPs)** – 2.3. Having completed the TPS, and to aid development of the Learning Scalar and Learning Specification (LSpec), EOs and KLPs are produced.

c. **Design Stage 2.**

(1) **Assessment Strategy (ASTrat)** – 2.4. This articulates the summative and formative AStrat for the ‘how’, ‘when’ and ‘in what manner’, training is to be assessed, which generates an Assessment Specification (ASpec) which contains the detail.

(2) **Selection of Methods & Media** – 2.5. This ensures the most appropriate, effective and efficient selection of training Methods & Media, including any constraints that may limit options, and draws on the Methods & Media options work conducted during Element 1 (TNA Stage 2, 1.6.3A/B).

d. **Design Stage 3.**

(1) **Learning Scalar and LSpecs** – 2.6. These structure the TOs/CTOs and their dependent EOs and KLPs in the Learning Scalar, and bring together the collective outputs of analysis and design in the production of LSpecs, in order to enable the delivery of lesson or collective training event plans etc for all training activities (including for workplace training). This is the content required for the Training Provider to deliver lessons/events.

(2) **Collective training trainer tasks** – 2.7. This ensures that the event-specific KSA that trainers require to deliver training during widely variable collective training events are captured and articulated.

e. **Risk/assumption management** – 5.7. On a continuous basis, this ensures that the risk register and assumption register, established during the TNA Stage 1 (1.2.4), are managed and updated with any new and emerging risks and/or assumptions.

f. **Training Design Review** – 5.8. This review of training design ensures that the design Element has generated the outputs necessary to deliver a successful training activity, based upon the training need.

g. **TrAD/Confirmation of Ready For Training Date (RFTD)** – 5.9. This seeks formal authority to begin training and follows on from the initial raising of the TrAD at the end of the scoping exercise (1.2 to 1.2.4), and is done by updating the TrAD and submitting it to the appropriate governance body for endorsement. It should be noted that the RFTD should also be confirmed and used to refine trainee throughput planning.
(1.2.2) and pipeline management (5.4) conducted during Element 1. Without an endorsed TrAD, Element 3 (Delivery), cannot begin.

10. **Element 3 (Delivery): The training activity is delivered** (For the detailed inventory of activities for Element 3, see Figure 4). It is expected that the Training Provider will be broadly responsible for conducting Element 3.

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Figure 4: DSAT Element 3 (Delivery)

a. **Statement of Training Task (SOTT) – 5.10.** The SOTT is the document generated by the TDA\(^{15}\) by taking the agreed output-based requirement articulated in the SOTR and developing it into a deliverable training plan for the following TY. The SOTT is agreed in the TY before training commences.

b. **Defence Trainer Capability (DTC) – 3.1.** Defence must ensure that its trainers inspire, motivate and challenge trainees in order to get the very best from them. To be fully effective, trainers fulfil the roles of the specialist trainer and that of leader, including: understanding the key attributes of a trainer; effective delivery techniques; the realities of training; coaching; and the use of technology. The DTC will deliver Defence Trainers that are fit for purpose.

c. **Preparing training – 3.2.** This ensures that the Training Provider, and specifically the trainer, has completed preparation for the delivery of the lesson and/or collective training event. This includes the use of the LSpec and ASpec to generate lesson or event plans and assessments suitable for the chosen training environments. Consideration should also be given to the development of a remedial training strategy and the requirements associated with deployed collective trainer training.

d. **Programming, scheduling and resourcing of training – 3.3.** This ensures that the key requirements for the successful programming and scheduling of training, as well as factors that affect resourcing (such as human, infrastructure and environment), are taken into consideration.

e. **Piloting of training activity – 3.4.** Piloting of training activities is conducted to help identify any issues or problems early. The purpose is not only to prove what works, but also to highlight problem areas so they can be revised as necessary. Checking the training activity in this manner will ensure it is appropriate to the need, cost-effective, safe, accountable and risk-focussed. Thus, it meets the requirement.

f. **Management of Training Deficiency – 3.5.** This shows the stakeholders where training shortfalls exist, or where deficiencies have arisen, owing to either an inability to train certain TOs/CTOs or a training failure that has been picked up through the assurance process, suggesting that trainees may not hold the competences that the training was designed to deliver. A Training Deficiency is not the same as the Residual

\(^{15}\) In conjunction with the Training Provider.
Training Gap. The Residual Training Gap is agreed by the TRA early on in the DSAT process and is articulated in the RTGS.

g. **Commander’s Risk Assessment (CRA) – 5.11.** This captures the risks of training, and the risks to training staff and trainees. The CRA must contain the health and safety assessment of the training activity specific to the Training Provider. A Supervisory Care Directive (SCD) is also a mandated requirement.

h. **Collective training risk management – 5.12.** The management of risk to capability through collective training shows what has been trained and where shortfalls exist or risk is being taken in declaring a team or capability ready for operations.

i. **Training Quality Manual (TQM) – 5.13.** This critical document sets the requirements, both in process and output terms, necessary to set and maintain the Defence mandated QMS. Each TQM will be unique to the specific requirements of the Training System and is a key document supporting the MTS. The TQM is endorsed at the CEB.

j. **Trainee and trainer management – 5.14.** This ensures that the Care and Welfare of all personnel that live and work within the training establishment are properly considered and captured in the Commander’s SCD which primarily sets out the trainee Care and Welfare activities.

11. **Element 4 (Assurance): Is the training activity being delivered correctly and does it meet the requirement? Is the whole Training System fit for purpose?** (For the detailed inventory of activities for Element 4, see Figure 5). It is expected that the Training Provider will be broadly responsible for conducting internal assurance activities, and the TRA, TDA and external bodies for conducting external assurance activities. Like assurance (depicted in purple), MTS activities (in blue), which contribute to assurance, are conducted throughout the DSAT process (cyclically) and repeated at regular intervals. In this JSP, they are discussed in Element 4, but users should not get the impression that MTS activities are conducted as a ‘one off’ activity, or not conducted until this Element.

Figure 5: DSAT Element 4 (Assurance)

a. **Continuous Improvement (CI) – 5.15.** The TRA, supported by other stakeholders, must seek to ensure that the Training System continuously improves. This is not a function that takes place at a specific point in the DSAT process but should (as the name suggests) be continuous. CI should not only be applied to the training activity to improve the training (both in terms of cost-effectiveness and training delivery) but also to the training system as a whole. CI can also result from recommendations contained within audits, inspections and evaluations, the results of which should be studied in order to identify and then implement improvements.

b. **3* - Defence People and Training Board (DPTB) – 5.16.** This is chaired by the Chief of Defence People (CDP). It is the highest level governance body for training issues. Amongst other objectives, the DPTB: manages training strategic performance...
and risks; and provides the governance and management of Defence individual training & education, including controlling the limits of variation between the Services.

c. **3* - Joint Commitments Strategic Steering Group (JCSSG) – 5.16.** This is chaired by Deputy Chief of Defence Staff (Military Strategy and Operations). The Group’s main responsibility is to endorse the presented Defence Exercise Programme (DXP) (12 to 18 months in detail) from the Service and Joint Forces Commands. The JCSSG will also provide Defence Strategic Direction (DSD) to the Service and Joint Forces Commands concerning weights of effort and geographical location for future exercise activity.

d. **2* - Training Policy Group – 5.17.** The Training Policy Group is the principal 2* forum that champions Defence training and education issues, engages with stakeholders and representatives from across Defence, and captures cross-Command training and education matters that require coherence in the FinMilCap process. The Training Policy Group treats Defence training and education holistically, avoiding the division of training into separate categories.

e. **2* - Defence Joint Collective Training and Exercise Committee (DJCTEC) – 5.17.** This is chaired by Deputy Director Joint Warfare. Its main responsibility is to manage overall UK Training and Exercises in line with DSD.

f. **1* - TESRR PAG – 5.18.** This provides strategic Direction on Defence TESRR matters and is the principal forum for the governance and assurance of such activities throughout Defence.

h. **Joint Collective Training Working Group (JCTWG) – 5.18.** This is chaired by AH MST. The JCTWG is responsible to the DJCTEC for the compilation of the DXP.

i. **Working groups/steering groups (WGs /SGs) – 5.20.** There are a number of standing Defence level WGs and SGs that assist with policy, assurance and governance of training across Defence. In the same way, it is likely that the CEB will wish to form WGs and/or SGs to support and assist with its governance and management. WGs may also be used to oversee the development and/or delivery of a specific DSAT activity.

j. **TNA, Stage 3 - TNE – 1.8.** This assesses and reports on the effectiveness of the TNA process as well as the ability of the implemented training solution to meet the Defence requirement. The TNE is conducted in 2 parts: evaluation of the process, and evaluation of the training solution. The key output is an assessment of how well the TNA outputs contributed to the provision of a training solution that meets the Defence requirement. This completes the TNA process.

k. **Evaluation Strategy – 4.1.** This process should first develop an Evaluation Strategy which is conducted by the TRA. The Evaluation Strategy should ensure that
both the training activity and Training System are continuously improved, that the TOs/CTOs remain relevant and Defence outputs are being achieved.

I. Internal Validation (InVal) – 4.1.1 and External Validation (ExVal) – 4.1.2. A specific sub-set of evaluation is Validation which is further split into InVal and ExVal. InVal examines whether the TOs are being met and ExVal uses both qualitative and quantitative data to determine the degree to which training prepares individuals/teams for the specified Role and whether the Role remains valid.

m. 1st party audits/inspections – 4.2. 1st party audit and inspection is assurance activity conducted for internal purposes by all parties for the DSAT activities they undertake themselves.

n. 2nd party audits/inspections – 4.3. These are conducted against the DSAT QMS and elements of the Common Inspection Framework (CIF). They are carried out by, or on behalf of, parties having an interest in the Training Provider, including the TDA, Customers and higher authorities.

o. 3rd party audits/inspections – 4.4. These are conducted by organisations independent of the TDA, TRA and the Chain of Command and external to Defence (such as Ofsted).

12. In the most basic terms, the core requirement of the DSAT process is to generate TOs/CTOs. To do this, roles are defined, with tasks and sub-tasks (both Individual and Team/Collective), and so forth, mapped out hierarchically, and a Role/Team PS, (stating the Performance, i.e. what is to be undertaken, the Conditions within which each task is conducted, and the Standard of performance to be achieved) generated. The Performance, Conditions and Standards information relating to each task and sub-task, and so forth, can then be used to generate TOs/CTOs, which are the building blocks of the design and delivery Elements. Without a well-executed TNA to generate the Role/Team PS and draft the TOs/CTOs, the subsequent Elements of the DSAT process will fail. The inventory of DSAT Activities is at Figure 6.

13. At Figure 6, the MTS mandated activities are depicted in blue and purple. They are listed numerically from 5.1 to 5.20 and from 4.1 to 4.4. The colour coding on the ‘DSAT On A Page’ is as follows: Analysis (green); Design (pink); Delivery (orange) and Assurance (purple). Finally, on the right hand side of the diagram, those recommended to carry out certain activities are depicted: TRA (yellow); TDA (brown); Training Provider (light blue); All (white).
Figure 6: Inventory of DSAT Activities
1.2 Element 1: Analysis

Policy Sponsor: TESRR, CDP

This Section of the Guidance outlines the Defence approach that allows training specialists to adopt a structured, methodical approach to the analysis of the training need, or requirement. It sets out the various activities, collectively termed the TNA, which may be used in order to conduct a TNA, which informs subsequent Elements and forms part of the overall Training System.

The DSAT process

1. This Section provides Guidance on the processes and outputs associated with the production of an analysis (in the form of a TNA), which is Element 1 of the DSAT process, as illustrated in Figure 1.

![Figure 1: The DSAT Process](image)

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16 Training, Education, Skills, Recruitment and Resettlement, part of Chief of Defence People, 6th Floor, MoD Main Building.
2. **Definition.** A TNA is a structured analysis of training need arising as a result of new equipment acquisition, doctrinal change, organisational change, or changes to policy/legislation. It generally includes an analysis of different training Methods and technologies, with a view to recommending the optimum training solution which balances cost and quality. It is a highly flexible procedure with the choice of supporting tools and techniques to suit different Training Systems. In all cases, however, a TNA is an output based, iterative process that provides an audit trail for all decisions and is closely mapped to the requirements of the QMS. A TNA does not, and should not, imply that training will be the only solution. If training is not the solution, this will become apparent in the Scoping Exercise, after which, analysis activity will cease. Analysis is conducted broadly in 3 Stages (as shown in Figure 2):

   a. **Stage 1.** Scoping Exercise.

   b. **Stage 2.** Analysis (for individual and/or collective training).

   c. **Stage 3.** Evaluation.

3. **Considerations.** Training activities should meet Defence outputs; and, should these change, the training need should be re-analysed, via a TNA, and if necessary, adapted to support the new requirement(s). If a TNA is to be conducted, the user should consider:

   a. the requirement being raised and the need to carry out a TNA.

   b. forming a TNA Steering Group (TNASG).

   c. assurance of the TNA process.

4. There may be different reasons for undertaking a TNA:

   a. In support of a new fielded force or training equipment or service.

   b. In support of an enhancement to any equipment or support system already in service.

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17 Stage 3 is not visible on Figure 2 because it occurs much later in the DSAT process. It can be seen on the DSAT Inventory of Activities at Figure 6, Part 2, Chapter 1, Section, 1.1.
d. A change to the doctrine underpinning the deployment of a capability.
e. Changes to organisational structure, or changed competence requirements.

5. As a general rule, a TNA should be used when a change in Defence capability is likely to have a significant impact on the training resources required to generate trained output. The TNA should be fit for purpose, provide an auditable trail and determine the most cost-effective training solution. The TNA may vary in complexity from a simple scoping exercise to an extensive process requiring a dedicated team of Needs Analysts.

6. **Non-training specialist involvement.** Stakeholders often have a limited knowledge of the MTS and are unfamiliar with the TNA process. At the start of a TNA, time is often well spent in educating those who are to be involved in the TNA about the process. They should be aware of their responsibilities, including the provision of information and staffing routines. Whilst it is not usually the TNA author’s responsibility to implement the training solution, post TNA, it is possible that they may be involved in subsequent working groups, to provide training support advice.

7. **Exploiting existing training activities.** The need to design training from scratch on a ‘blank sheet of paper’ is a very unusual occurrence, as it is much more likely that existing training can be modified. It follows, therefore that it is often desirable to analyse the current training first. Where current role information, Role/Team PS or TOs/CTOs do not exist for any current training, more comprehensive RA and/or TCTA, may be required, before any determination of a training requirement can be made. Analysis of similar, existing, training is also useful to support this.

8. **Audit trail.** A TNA should generate a clear audit trail which plots the sequence of events and decisions leading to a training solution. The justification and supporting evidence used as the basis for these decisions should be readily apparent (such as: references to, and/or copies of, academic research literature; the deliberations of the Analysts; minutes of TNASG meetings and Defence/Contractor publications). A quality audit trail requires full disclosure of, and rationale for, the methodology, tools and data sources used in the analysis, with copies of any specialist or bespoke software made available to the TNASG.

9. **Iterative/selective nature of TNAs.** Whilst a TNA is carried out by completing a number of activities in sequence, it is important to note that the process is iterative in nature. Many influencing factors, risks and assumptions are liable to change during the conduct of a TNA. It is therefore important that at every stage of a TNA, the key outputs are reviewed to ensure their continuing validity, and that stages of the process be repeated if necessary. Processes for reviewing the TNA outputs should be capable of amendment where changes are required. Tight control should be exercised by the TNASG, which approves all changes to the TNA. Follow-on changes to the training requirement and the impact on training may be managed through a system of configuration control but this does not remove the responsibility of the TNASG for ensuring that changes are reflected in the TNA.

10. The TNA provides an audit trail of analysis to determine the need for training and, if required, enable design of a training solution. The process described below is a 3-stage process with a number of specified outputs. However, it should be emphasised that this recommended approach is not necessarily linear nor does it have to be followed prescriptively. In many cases there may not be a requirement to produce all of the
suggested output products, and there may be merit in conducting stages or activities concurrently.

11. **Individual training and team/collective training.** As explained in the Overview, the DSAT process caters for both individual training and collective training needs. As such the DSAT process has been designed to deliver, either one or the other, or both. As individual training is part of, and a building block to, collective training, and as no role in Defence can be considered in isolation (as Defence is a team-oriented capability) it is considered likely that trainees will conduct individual training activities, followed by collective training activities, as a ‘training continuum’ (see Figure 3) before they can be considered able to contribute effectively to Defence outputs. Therefore, the 3 stages of the TNA process allow for this. Stages 1 and 3 are common to individual and collective needs, whilst Stage 2 has separate process for each. In this way, users can use either the Stage 2 process that best suits their need (individual training, or collective training), or, as is more likely for larger, more complex TNAs, both (e.g. a user may initially conduct a RA to identify specific individual role training requirements, then conduct a TCTA to place that role into the wider collective context and provide the role-trained trainees, with collective training to prepare them for the inevitable requirement to operate as part of a team and deliver Mission and Joint Tasks). The approach to conducting a Team/Collective TNA does not mirror the process for Individual TNA in all respects. In the following paragraphs, each element of the TCTA is covered in turn as part of TNA Stage 2 (after the Individual TNA)\(^\text{18}\).

\[
\begin{aligned}
\text{------Individual------} & \quad \text{------Team------} & \quad \text{--------Collective--------} \\
\text{Ph 1} & \quad \text{Ph 2} & \quad \text{Ph 3} & \quad \text{Tier 0} & \quad \text{Tier 0} & \quad \text{Tier 1} & \quad \text{Tier 2} & \quad \text{Tier 2+} & \quad \text{Tier 3}
\end{aligned}
\]

*Figure 3: Training Continuum – Individual/Team/Collective*

**TNA overview**

12. The principal activities of the TNA process, grouped together into the 3 Stages (noting the split Stage 2 processes for individual training and collective training), are:

a. **TNA Steering Group (TNASG) – 1.1.** To ensure validity, the TNA process and outputs are governed by a dedicated steering group representing all stakeholders, which manages the TNA via the production and maintenance of a TSP.

b. **TNA, Stage 1.**

(1) **Scoping Exercise Report – 1.2.** This identifies the management of the TNA, programming and resourcing issues, policies, constraints, risks and assumptions. The key output is the Scoping Exercise Report (which recommends possible training solutions). It also identifies if training is not the solution and no further analysis is required.

\(^{18}\)All individual-specific TNA activity numbering has an ‘A’ added, and Team/Collective a ‘B’. No additional lettering means that the activity is applicable to both.
c. **TNA, Stage 2.**

(1) **RA – 1.3A.** This identifies the Role(s) that need to be trained for, the supporting duties, tasks, sub-tasks and task-elements, then analyses these to generate Performances, Conditions and Standards. The key output is the Role PS.

(2) **TGA – 1.4A.** This states the training gaps in terms of KSA. The key outputs are the Statements of Training Gaps.

(3) **Draft TOs – 1.5A.** This is an initial draft of the TOs, based upon the Role PS, which are the key outputs. It may be that the draft TOs created at this stage are sufficient and do not need further refinement but they are certainly not endorsed at this stage.

(4) **TOA – 1.6A.** The TOA considers each relevant Task in the Role PS to assess the extent to which the training environment should replicate the workplace (real) environment to enable training to be effective. This is known as the Fidelity Analysis. The implications of locations and environment for training and Methods & Media options are then considered. The key outputs are the realistic options for Methods & Media and refinement (based upon fidelity, locations and environment) of the possible training solutions. Cost-effective options which take account of Whole Life training requirements (including refresher training) are considered.

(5) **TCTA – 1.3B.** This is to gain an understanding of the extent of team or collective tasks in order to define the Performance. The key output is the Team PS.

(6) **OA – 1.4B.** This is an appreciation of the training functions, Methods and support that are necessary to design and deliver the training of the tasks.

(7) **Draft CTOs – 1.5B.** This is an initial draft of the CTOs, based upon the Team PS, which are the key outputs.

(8) **EA – 1.6B.** This specifies the requirements for training environments and then identifies possibilities to meet these.

(9) **Training Needs Report – 1.7.** For individual and collective training, the Training Needs Report analyses the cost benefits and then evaluates the merits of the training options, before confirming the TNASG endorsed training solution. The report includes the Role/Team PS. The key output is a recommendation as to the most cost-effective training solution, which inputs into the SOTR. An implementation plan is also included.

d. **TNA, Stage 3 (conducted at Element 4).**

(1) **TNE – 1.8.** This assesses and reports on the effectiveness of the TNA process as well as the ability of the implemented training solution to meet the

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19 The term Role PS replaces Operational Performance Statement (OPS). The logic being that the word ‘operational’ can cause confusion with training for operations and the operational delivery of training, particularly when considered in relation to collective training.
Defence requirement. The TNE is conducted in 2 parts: evaluation of the process, and evaluation of the training solution. The key output is an assessment of how well the TNA outputs contributed to the provision of a training solution that meets the Defence requirement. This completes the TNA process.

13. It should be noted that the cheapest option is not necessarily the most cost-effective option in meeting the training requirement. Also, the cheapest option is not necessarily to continue existing training within existing resources. Therefore, ‘effectiveness’ is the key as it is the extent to which the training has prepared the individual or team for the Defence effect which matters. Cost is ‘efficiency’ focused to optimise the use of resources to enable the execution of training (and required learning) and ensure Value for Money (VfM).

14. The TNA process is summarised at Figure 4.

15. **Why or when should a TNA be conducted?** Before a TNA can begin, a clear evidence-based SOR is to be produced, preferably in a written format (letter, e-mail, request form or tasking order, for example). Then, prior to the commencement of the analysis, a scoping exercise is conducted which may identify that the most cost-effective means of achieving the required Defence need, is a training solution. Once the requirement for training has been established, a TNA should be undertaken to ascertain the type and scope of the training requirement that meets the Defence need. It should be noted that a TNA may range from a simple interview to a process lasting several months.

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20 Equally, it may not recommend a training solution, in which case the TNA would cease.
16. **Responsibility.** It is expected that the TRA will take the lead on the production of the DSAT activities, processes and outputs required to be completed during Element 1. The TRA may wish to delegate specific tasks, but will retain overall responsibility for them. The TRA will also be expected to ensure that those activities deemed critical to the development of the Training System are conducted. A key activity is the establishment of a TNA Steering Group (TNASG), upon receipt of a SOR, or other authority, to begin the TNA process. The TRA is ultimately responsible to the Customer for the work conducted during this Element.

The SOR

17. **SOR – 5.1.** The DSAT process will begin with a SOR, which states that there is a (real or perceived) need for personnel to have specific KSA due to a new or changed requirement. An SOR may necessitate a change to an existing training activity, or require a completely new training activity to be designed, both of which require the use of the DSAT process. It may also result in no change to any training. Criteria that will affect the SOR include: changing Defence priorities; new equipment coming into service; results of external assurance; manpower changes; skills gaps, or pinch points trades; and changing legislation or Government policy.

TNA Steering Group

18. **TNA Steering Group (TNASG) – 1.1.** To ensure validity and assurance of the process, the TNA should be governed by a dedicated steering group representing all stakeholders. However, TNA governance must also be ‘fit for purpose’ and appropriate to the need, with more resources and controls required to support a large and complex training requirement, than a small one. A dedicated steering group working to an agreed TNA methodology should manage every TNA. The owner of the requirement should chair the TNASG, supported by the relevant stakeholders who can provide technical, user, quality and Defence expertise. TNASG membership may include:

   a. **Training Requirements Authority (TRA).** The complexity and size of the training requirement will dictate the level of involvement of the TRA and whether responsibilities are delegated. Training policy and training support representatives from the TRA should direct the TNA Scoping Exercise and the TRA will normally nominate the chair of the TNASG. Depending upon the risk assessment, the TRA may then delegate its representation to others, such as the TDA.

   b. **Training Delivery Authority (TDA).** The TDA will need to be represented at the TNASG as it is responsible for the design stages of the DSAT process and will likely be closely tied to the Training Provider.

   c. **Training Provider.** It is not vital for the Training Provider to be represented at the early stages of TNA, unless a specific Training Provider is obvious from the outset. In that case, it is sensible to include the Training Provider in the TNASG.

   d. **Formation Command.** The Formation Command\(^{21}\) is the final user of the new capability. The Formation Command therefore should be represented as it will be integral to achieving the balance of training between that delivered by the Training Provider and the remainder by the Formation Command in the workplace.

\(^{21}\) Such as, for example: a Warship, a Brigade, or an Air Wing.
e. **Defence Equipment & Support (DE&S).** Where the training need is derived from new equipment or a service being brought into service by DE&S, representation from the Project Teams, or equivalent, is key to ensuring that the training requirement meets the technical needs of the new capability.

f. **Manning Authority.** The identification of manpower appointments/posts/billets affected by a new Defence capability, as well as training throughput to man it, are key aspects of the scoping exercise and RA/TCTA. The involvement of the relevant Manning Authority is therefore critical to the validity of the TNA and important in ensuring that the issues that overlap between personnel/manning and training are fully integrated and understood by all parties from the outset.

g. **Training SME.** If necessary, a training management SME should be represented in order to advise the chair on TNA management and methodology, ensure that the TNASG is representative of all stakeholders, compliant with the DSAT process, and that an audit trail exists.

h. **Other members.** Membership can be extended as needed to include any other interested parties. For example, it may be prudent to include representation from Diversity and Inclusion (D&I), legal or security staffs.

i. **Role of the TNASG.** The TNASG is responsible for ensuring that the training requirements are identified and met. It should therefore perform the following tasks, which should form the basis for its ToRs:

1. develop and maintain a TSP.
2. quality assure all TNA activities, particularly the (Stage 1) Scoping Exercise.
3. brief potential Contractors and act as a point of contact for any requests for information or subject matter expertise.
4. co-ordinate the activities of all contributors to the TNA.
5. review and co-ordinate amendments to TNA outputs.
6. endorse proposals affecting the TNA process or that amend outputs.
7. endorse the most cost-effective training solution recommendation.
8. assist in the design and delivery of the chosen training solution.

19. **Collective training governance.** Team/Collective TNA is governed by the structures identified in Defence Direction for Collective Training in Part 1, Chapter 3, Section 3.1. In keeping with individual training DSAT processes, each Team/Collective TNA requires a dedicated steering group, which should be formed and led by the appropriate TRA and/or Customer. In particular, stakeholders from Joint Forces Command (JFC) and Other Government Departments (OGDs) should be included and non-endorsing industry members are to be considered as apposite. The quality of a TNA should be assured by all members.
of the TNASG which should include a training SME from environmental Training Acquisition Organisations or other suitable organisations.

20. **Subjectivity.** TNA governance is often complicated as individuals who act as stakeholders often double as the steering/working group representatives and are therefore closely involved in the development of the TNA. In other words there is potential for an element of subjectivity in the final decisions made. The TRA may have already decided on a training solution and wants the TNA to justify it. SMEs may have pre-conceptions regarding the operation/use of different Methods & Media (SMEs may not be training professionals and may not be fully aware of the options available); so the user should be aware of the potential to influence their decisions or statements. It is therefore much more effective for a TNA to explore all possible options and identify the most suitable and cost-effective solution.

21. **TSP – 1.1.1.** The TNASG should manage the TNA via the production and maintenance of a TSP. The TSP should identify any constraints on the TNA in terms of training policy or funding, ensuring that all the actions required to produce cost-effective training support are identified and the appropriate agencies tasked. The TSP should also specify when the TNA activities are to be conducted, who is responsible for the management and conduct of the TNA process and when and how the outputs are to be assured. Figure 5 illustrates the TSP in the wider TNA context. The TSP, governed by the TNASG should identify the milestones sufficient to meet the RFTD. A RFTD should be considered at this stage, agreed and stated later as a ‘hard stop’ point, as part of the Training Authority Document (TrAD), which is produced at the end of Element 2 (Design).

![Diagram of TSP in the TNA Context]

**Figure 5: TSP in the TNA Context**

**TNA: STAGE 1 (SCOPING EXERCISE REPORT)**

22. **Scoping Exercise.** The scoping exercise involves the initial analysis of the requirement and, where applicable, suggested options for meeting the requirement including a broad order estimate of the resource implications associated with each option. This is articulated in the Scoping Exercise Report (1.2). The scoping exercise should be completed

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22 Given this condition, there is no requirement for independent scrutiny.
23 RFTD is defined as the point at which all the necessary resources required to conduct training have been accepted by the TRA.
as early as possible and starts by acquiring as much relevant information as possible about the training need and the Customer requirement. It defines the TNA management, risk, programming and resourcing within the boundaries of policy, assumptions and constraints. It also highlights issues that impact upon, or will need to be considered, during Stage 2. It will advise the TNA strategy for the proposed training solution and provide the parameters of the new or changed Defence requirement where TNAs will be, or have been, carried out. The scoping exercise does not have to be a long and protracted document and can utilise electronic references such as minutes of meetings, records of conversations to provide an auditable trail. A scoping exercise may originate from a variety of sources, for example:

a. a new or changed SOR.
b. performance deficiencies.
c. training improvements/constraints.

23. Provided that a training need is confirmed then a search of existing training activities is to be conducted to ascertain if training, already designed, could satisfy, or partly satisfy, the need. The scoping exercise should then outline the aim, constraint, assumptions, proposed methodology and timescales, and provide an estimate of the resources required for the subsequent analysis and design stages.

24. The scoping exercise is the initial investigation and should derive a strategy and tentative solution for meeting the need for a training intervention. As this investigation progresses, decisions about how to apply the DSAT process should be made. For example, is it necessary to complete a full RA/TCTA from first principles, or is it sufficient to confirm that an existing Role/Team PS is still valid? Likewise, the strategy may recommend the process focuses on certain elements of a Role/task Performance which need further development or perhaps recommends targeting the TOs/CTOs to ensure they support a Role/Team PS. It may be decided that the sequence of training be reviewed if this is highlighted as a potential problem or that further consideration is given to current refresher training intervals. The scoping exercise should also cover a list of the resources required to complete the subsequent activities and an agreement as to which organisation(s) will provide them.

25. The scoping exercise should produce a report detailing what is appropriate to the training need and, importantly, make training solution recommendations. It should include:

a. references to the relevant training policies.
b. assumptions, freedoms and constraints.
c. the conclusions, outputs or recommendations of previous relevant studies (if any).
d. membership of TNASG that will oversee the subsequent analysis stage.
e. recommendation to continue with the TNA if appropriate.
f. TNA outputs.
g. TNA ToRs.
h. confirmation (or otherwise) that there is a training requirement that will fulfil the SOR (if there is not, the DSAT process should then cease).

i. recommended possible training solution option(s) to be taken forward into the analysis and design stages.

j. a section on risk.

26. **Training solution recommendations.** Training solution recommendations should be examined by the relevant stakeholders at the TNASG. Taking into account time and resources, it will decide the most appropriate way of taking the requirement forward. Where a training solution is recommended and agreed at the TNASG, a plan for subsequent analysis and design activities should be produced. If a training solution is not recommended, the DSAT process should be halted at this point. However, a response to the question, ‘what should we do to address these deficiencies?’ should be given. The problem may not have anything to do with training and may require:

a. a revision of procedures and/or improvements to management and supervision.

b. production of role/task aides and/or the reallocation of tasks.

c. changes in the approach to personnel selection.

d. acquisition of equipment.

e. manning incentives, such as pay and civilian qualifications.

27. The Scoping Exercise Report may include:

a. **Summary of new/changed requirement.** A summary description should outline the proposed capability or technology/equipment and the benefits of the new or changed training requirement in the context of the Defence effect. This will enable the identification of the nature of the training gap and underpin areas requiring analysis (e.g. are there any changes to CONOPS; what changes are system/equipment function related; are there any impacts upon manning structures?).

b. **Policy.** Influences concerning policy can affect the TNA strategy and can include various freedoms and constraints placed upon the Training Provider, such as: roles, tasks, structures, manning levels, finance limits, Health and Safety requirements, minimum qualification levels for prospective role holders and/or tasks, and any accreditation or legislative issues.

c. **Previous/associated studies.** Reference to and use of previous or associated studies is strongly recommended. Information sources include previous TNAs, Human Factors (HF) studies and evaluation reports on similar requirement(s). For major projects, where more than one TNA is being undertaken, it can be useful to indicate the relationship between the various TNAs.

d. **Potential training services.** The major types of training Methods & Media likely to be considered or examined should be included at this stage and then re-examined

24 Particular reference should be made to the Service policies/directives for individual and collective training (e.g. JTLs, MTLs and Collective Performance).
later (1.6.3A/B and 2.5). This will reflect the current training policy and should specify any areas requiring particular attention, such as the possible need for synthetic training, embedded training or Public/Private Partnership or Private Finance Initiative (PPP/PFI) solutions\(^\text{25}\). These are only possible options and may change during the TOA/EA as a result of developments in policy, technology etc. An estimate of the cost of these services should be provided. Any new training solution may have to utilise existing training facilities and this should be noted.

e. **Methodology.** The TNA methodology should be tailored to suit the specific training requirement but should always provide a full audit trail. For example, in the case of a small change to training policy, a TGA (1.4A) and/or Teamwork Error Analysis (1.3.6B) followed by a TOA and/or EA (1.6A/B) to establish the most cost-effective Methods & Media would be sufficient. Equally, if the training is to fit into an existing training activity using similar delivery techniques and Media, then a full blown TNA may be unnecessary. The outputs from the scoping exercise and subsequent analyses should be agreed during Stage 1 of the TNA, which will allow the user to select the correct methodology and tools based on the constraints and information available at the time. Analysis should not be conducted as a ‘check list exercise’, but should only be undertaken if it adds value to the TNA. TNA is an iterative process and the TNA outputs are therefore subject to continuous review.

f. **Resources.** An estimate of the resource allocation should be made to include the following:

   (1) sources of information required including documentation and access to SMEs.

   (2) procedure for the review and TNASG endorsement of the Training Needs Report.

   (3) Cost of Ownership (COO) concerning the responsibility and allocation of funding across the affected budget holders for the design, installation, operation and supportability of the recommended training solution.

   (4) sources of SME assistance, if applicable, the training manpower and facilities currently available.

28. **ToRs – 1.2.1.** It is important that clear TNA ToRs are produced to guide the subsequent analysis stages. They should be agreed and clearly understood by the TRA, stakeholders and the personnel undertaking the DSAT activities. A considerable amount of resources may be required to carry out these analyses and these should be made explicit within the ToRs. Although the layout of ToRs may be adjusted to meet specific circumstances there are a number of key areas that should be considered:

   a. the scope and size of the TNA.

   b. constraints, risks and assumptions.

   c. outputs and reporting procedures.

\(^{25}\) Dstl research on Outsourced Training Services provides further guidance. See Part 2, Chapter 5, Section 5.1 for full reference.
29. **TNA plan.** In order to estimate the timescales for the TNA it may be necessary to generate a plan, for inclusion with the ToRs. A plan should detail the milestone dates for each activity to enable reviews by the relevant stakeholders. The TNASG is responsible for ensuring that these activities take place. It need not be detailed but as a minimum it should include what is to be done, by whom and when. It can be presented simply as a written list of activities with important milestones and estimated timelines, or a chart generated from a standard software package (such as PERT or Gantt chart).

30. **Training Audience (and Throughput) Description – 1.2.2.** An estimate of who will be affected by the new or changed Defence requirement is required to ensure that it is representative and to determine throughput and input standards. The Training Audience (and Throughput) Description should also include an estimate of the training population for training, the annual throughput and the input standard. This information can then be used to inform and refine the SOTR (5.5). Course designers are to use TAD output when considering learner characteristics and MMA.

31. **Identification of personal characteristics.** In the course of analysing a particular role, it is often the case that to carry out the role effectively, an individual should possess certain characteristics. If this is so, then it is important to determine an appropriate balance between selection and training in order to provide people who have these characteristics and who are, therefore, capable of doing the role. The training audience is the group of learners for whom the training requirement is intended. The purpose of this description is to identify the:

   a. training audience groupings, the number and type of groups that need to be addressed (e.g. operator, maintainer, manager, train-the-trainer; individual, team, unit etc).

   b. social and demographic characteristics of each of the training audience groups.

   c. subject matter competence (in terms of KSA) of each of the group on entering training. This could include identifying any key entry standards.

   d. size and annual training throughput requirements of each of the training audience groups.

32. **Training audience.** Analysts should consider potential members of the training audience from across the training continuum, from individual through team to collective. This is critical to assist in determining cost-effective training options.

   a. **Individual.** Users should identify all individuals who require training, and possibly at what stages in the training continuum they will be required to be trained. If possible, analysts should also identify the relevant individual career training pipelines and identify the optimal stage for any new training to be delivered. Users should identify the appropriate rank and branch/specialisation of all individuals requiring training; and

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The Defence Human Factors Integration Policy for Defence Systems (JSP 912) also requires the development of a Target Audience Description so there is the potential for re-use of information here.
consider individuals who could require training from across all Defence Lines of Development (DLoDs), and not limit thinking to a single area.

b. **Team and sub-team.** Seldom will individuals operate alone; they will almost always constitute part of a team. Users should therefore identify the teams and sub-teams that will require training. A team is a sub-division of an individual unit’s personnel, (e.g. a ship would comprise teams operating on the bridge, in the operations room, in the ship control centre etc). Teams can sometimes then be sub-divided further into sub-teams. Users should identify the individuals who will constitute the teams/sub-teams so that the capacity and size of any potential team training solution can be determined.

c. **Collective.** The tiers of component, Joint and Combined Collective Training are defined as shown in Table 1.

<table>
<thead>
<tr>
<th>Tier 0</th>
<th>Tier 0 training prepares individuals to operate as teams below Unit level(^{27}) (individual training).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>Tier 1 training prepares units(^{28}) and sub-units to take their place within a tactical formation or Combined/Joint Force Component.</td>
</tr>
<tr>
<td>Tier 2</td>
<td>Tier 2 training prepares tactical formations (^{29}) operating below the Combined/Joint Force Component level for operational employment.</td>
</tr>
<tr>
<td>Tier 2(^{(+)})(^{30})</td>
<td>Tier 2+ Collective Training prepares one or more Combined/Joint Components (^{31}) for operational employment. It may be conducted in combined or joint contexts on a UK, NATO or Coalition Partner framework basis. This Tier is of particular significance with enduring NATO requirements and the next higher HQ in such training will be the Joint Task Force (JTF) HQ.</td>
</tr>
<tr>
<td>Tier 3</td>
<td>Tier 3 training prepares a Combined/Joint Task Force for operational employment or a Permanent Joint Overseas Base (PJOB) for an operational role. It may be conducted in combined or joint contexts and on a UK, Joint Expeditionary Force, NATO, EU or Coalition Partner(^{32}) framework basis.</td>
</tr>
<tr>
<td>Tier 4</td>
<td>Tier 4 events prepare the Defence Crisis Management Organisation (DCMO) to manage crises and provide strategic direction for, and conduct of, operations at the Political-Military Strategic level. They may involve Other Government Department (OGD)/Non-Government Organisations, other International Organisations and/or NATO and the EU.</td>
</tr>
</tbody>
</table>

**Table 1: Collective Training Tier Definitions**

33. **Social and demographic characteristics.** Social and demographic characteristics of the training audience provide an early training analysis that assists in determining appropriate and cost-effective training solutions. The type and scope of information required for each training audience should be determined by the complexity of the performance

\(^{27}\) For example, an Operations Room within a ship or a platoon/troop.

\(^{28}\) Such as a Maritime Task Element/Unit, an Army or RM Company or Battalion, an RAF Squadron/detachment, or a UK SF detachment.

\(^{29}\) Such as a Maritime Task Group, Allied Rapid Reaction Corps/UK Formation, Air FEs and any AEW HQ, or a Special Forces Task Group subordinate to a higher Headquarters.

\(^{30}\) The SCs retain responsibility for Tier 2\(^{(+)}\) training except for specific Permanent Joint Headquarters (PJHQ) exercises.

\(^{31}\) Combined/Joint Component Commander(s) and their Headquarters.

\(^{32}\) That is, the UK/France Combined Joint Expeditionary Force.
requirement and the size and complexity of the training audience. This list, whilst not exhaustive, should serve as a guide as to what to consider:

a. **Physique, health and appearance.** Such as particular requirements for eyesight, hearing, manual dexterity, height, weight, fitness standards, build and appearance.

b. **General intelligence.** It may be important to indicate either the general level of intelligence required, or minimum scores required on intelligence tests.

c. **Special aptitudes.** Such as special aptitudes for mechanical ability, manual dexterity, skill with words, skill with figures, artistic ability, musical ability.

d. **Interests.** A personal particular interest in a career-type, e.g. nursing or policing require people who have a desire to do this sort of work if they are to be successful at it.

e. **Disposition.** Some roles require people with initiative while others require someone who can tolerate routine and repetitive work.

f. **Learning styles.** Such as reading ability, attitudes towards potential training delivery systems, impact of Specific Learning Difficulties (SpLD) etc.

g. **Motivation.** Such as willingness or motivation to attend training or career implications and career cycles as they relate to the training.

h. **Personal data.** Such as age, sex, rank, length of Service, ethnicity, cultural characteristics/biases etc.

i. **Geographic location / organisational distribution.** These factors may result in certain constraints/considerations.

34. **Subject matter competence.** Information needs to be collected on (or assumptions made about) the role-related competences (KSAs) in which the training audience is already proficient. The training audience’s level of KSA with respect to the Performance requirements is a factor, which depends mainly on previous related training, experience and recruitment profiles. Information should be obtained on:

a. experience with the training performance (and how it was obtained).

b. ability to perform any part of the requirement.

c. knowledge of the subject matter (and how it was acquired).

d. positive or negative perceptions of the subject matter.

e. perception of the impact of mastering the Performance requirements on self, work, career.

35. **Existing competences.** When identifying the training audience, analysts should also establish whether individuals/teams will be required to have any existing competences or experience levels prior to exploiting the new capability (pre-requisite analysis). Some of
these competences may also be required by trainer/training support staff to enable them to assess performance and develop training activities. Example criteria include:

- establishing whether or not an individual’s existing competences are sufficient for them to safely operate or maintain the new capability.
- identifying what level of rank is required to exploit the capability.
- establishing the minimum level of experience required (such as, number of flying hours, previous command experience, specific operational experience etc).
- establishing the minimum qualification required (such as, charge qualified, command qualified, category ‘A’ nuclear watch keeper etc).

36. **Pre-requisites analysis.** Pre-requisites analysis can be used to inform the training solution recommendations, and is an important measure of competence/entry standard prior to training. This enables more accurate measures of competence ‘before and after’ training to be taken, thereby facilitating measures of effectiveness of the training solution in delivering the required output standards.

37. **Training throughput.** An estimate of training throughput numbers (total audience and annual throughput requirements) will inform requirements for the size and capacity of the potential training solution, and must be made available to inform the SOTR (5.5) process. The SOTR forecasts annual throughput requirements 4 years in advance, in order to help generate the required capability. Throughput numbers may be required in support of a variety of related training solutions for each distinct training audience group. Throughput figures should be calculated separately for each type of training required and for all affected Defence people, MoD civilians and Contractors. Training throughput figures should be presented in table or graph format, along with any throughput assumptions. Training throughput figures for all training audiences can then be used as separate requirements to be considered by users in generating potential training solutions. These factors should be considered when estimating the throughput numbers:

- average lengths of assignment.
- per cent posted to similar role in a different location (such as, will not need to be retrained to assume role responsibilities).
- recertification issues (such as, how long is the training valid for).
- promotion cycle and its potential impact on training numbers (such as, number of target audience who will be promoted during their assignment).
- historic data on pass rates, if applicable.
- any known contractual constraints.
- consideration for civilians and contractors who may need to attend the training.
- any known throughput constraints on pre-requisite training.
- potential competition with other training activities.
38. **Constraints analysis – 1.2.3.** Any constraints affecting the TNA need to be analysed and highlighted to ensure that risks regarding financial, safety and technical issues are addressed. The TNA process should initially focus on satisfying the strategic need with the caveat that proposed training solutions are compared with the initial constraints as part of the TOA and/or EA. Further constraints are the timing/development of the TNA, accessibility to SMEs and Intellectual Property Rights (IPR). The TNA may be directed to examine a particular potential training solution, however, without prejudicing the final outcome. Constraints may also be identified in strategic trends, doctrine, concept documents (e.g. the Concept of Employment for a capability) or can be determined through contextual analysis (such as via PESTLE\(^3\) or other frameworks). They should also involve consideration of all the Defence Lines of Development (DLoDs)\(^34\). Key constraints include:

a. **Policy.** Training solutions may be mandated by policy or there may be limitations on which options can be considered (e.g. the TNA should adhere to the Defence Training and Education Capability (DTEC) Rules\(^35\) and Defence Policy for Simulation\(^36\), as well as taking account of policies on the use of the Support Solutions Envelope, Integrated Logistic Support (JSP 886)\(^37\) and Human Factors Integration for Defence Systems (JSP 912)). SCs may also mandate the use of specific training environments or solutions.

b. **Cost.** Restrictions may be placed on the TNA by affordability considerations, which may restrict the number or scope of training options but could also take into account Value for Money (VfM) through-life (e.g. where investment has already been made in training and, for economic reasons\(^38\), it is advisable to build upon existing capability rather than acquire new systems). Any analysis of cost constraints should always consider capabilities through-life.

c. **Time.** Analysis is invariably conducted under time pressures, including the need to meet deadlines such as Initial or Full Operating Capability (I/FOC). Therefore, the TNA should consider any prioritisation that needs to be taken account of and then constrain the analysis accordingly.

d. **Safety.** Training environments can be constrained by safety considerations, such as on the use of live fire or requirements imposed by safety cases\(^39\). Note that, regardless of training solution, there is likely to be a requirement to conduct operating assurance through the use of live equipment.

e. **Legal.** There may be restrictions on training due to legal requirements, such as mandated hours for aircraft control duties or flying, as well as Care and Welfare responsibilities. Acts of Parliament may also influence training options.

f. **Resource.** Analysis should take into account the unavailability or limited availability of both training audiences and potential training support requirements\(^40\).

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33 Political, Economic, Social, Technological, Legal and Environmental.

34 Training, Equipment, Personnel, Information, Concepts and Doctrine, Organisation, Infrastructure and Logistics, along with Interoperability.

35 Contained within this Part of the JSP.

36 JSP 939: Defence Policy for Modelling and Simulation (M&S).

37 See [http://aof.uwh.dif.r.mil.uk/aofcontent/tactical/sse/content/ksa2/gp208.htm](http://aof.uwh.dif.r.mil.uk/aofcontent/tactical/sse/content/ksa2/gp208.htm).

38 That is, in order to potentially optimise efficiency and effectiveness.

39 See [http://aof.uwh.dif.r.mil.uk/aofcontent/tactical/engineering/content/airworthiness/aw_safetycase.htm](http://aof.uwh.dif.r.mil.uk/aofcontent/tactical/engineering/content/airworthiness/aw_safetycase.htm).

40 For example, access to training areas and the capacity of existing training solutions or infrastructure.
39. Given the significant impact these constraints may have, the TNA should commence with their identification and risk management\(^{41}\), noting the potential impact and options for mitigating any threats or the consequences of constraints. From this analysis, a constraints table, risk register and an assumptions register (including a Master Data Assumptions List as required) (1.2.4) should be compiled and maintained by the analyst and reviewed by the TNASG, noting that a constraints analysis is an iterative process and may determine that a training intervention is not the most appropriate way to address the Defence need.

40. **Risk Register – 1.2.4.** It is advisable at this early stage to begin to build a risk register. There should be an assessment made of any risks, technical, financial, contractual and other, perceived in the design and delivery of the training. Proposals for controlling and mitigating the risks should be identified. Identification, tracking and mitigation of risk are requirements both of the QMS and during delivery. It should therefore be seen as an iterative activity that builds and becomes more meaningful as the DSAT process progresses. There is nothing specific or unique regarding risk assessment in the training environment, as opposed to any other, therefore users should adopt standard risk management practices, such as those laid out in JSPs 375\(^{42}\) and 525\(^{43}\). Risks should be reviewed regularly by the TNASG. Where risks are identified, a plan for mitigation should be enacted and resources allocated, where necessary. It may be the risks need to be transferred to the appropriate governance body for authority to treat through mitigation, or tolerate (if mitigation is not feasible), or transfer if the risk needs to be elevated to a higher level. Risks should then be fed back into the DSAT process, in order to ensure that activities are either repeated or conducted bearing the risks in mind. Risk management is conducted continuously and is captured later in the DSAT process (5.3, 5.7, 5.11).

41. **Assumptions Register – 1.2.4.** An Assumptions Register should contain the assumptions which are the unconfirmed statements to be taken as facts. In the context of a new or changed requirement, they usually relate to policy and the use of previous or associated studies. In a TNA, assumptions must be stated to ensure that the direction, outcomes and effectiveness of the TNA are within defined boundaries. If the new requirement involves equipment using emerging technology, then analysis may be more subjective than objective during product development stages and therefore must be stated. These assumptions should be annotated in a TNA assumptions register\(^{44}\). The user responsible for maintaining this document should do so throughout the life of the TNA. Assumptions should be reviewed regularly by the TNASG. As the DSAT process progresses and information becomes available then assumptions can be removed and replaced with fact. Assumptions management is conducted continuously and is captured later in the DSAT process (5.3).

42. **Raise TrAD – 5.2.** At this stage, once the scoping exercise is complete, a TrAD should be raised. This is done by the TRA in conjunction with the TDA and Training Provider, if appropriate, by completing those elements of the TrAD that are applicable to this stage in the DSAT process (i.e. Element 1, Stage 1 complete) and populating it as the DSAT process progresses. The format for a TrAD is contained within Part 1, Chapter 1, Section 1.1 (Annex A). The TrAD is then further refined and presented for formal endorsement later in the process (5.9).

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\(^{41}\) To be undertaken in accordance with the Cabinet Office’s Management of Risk Best Practice Guidance.

\(^{42}\) JSP 375: Management of Health and Safety in Defence.

\(^{43}\) JSP 525: Corporate Governance.

\(^{44}\) As a minimum this should include the assumption, the source and the status.
TNA: STAGE 2 – ANALYSIS (INDIVIDUAL TRAINING)

RA

43. **RA – 1.3A.** The duties, tasks, sub-tasks and task-elements performed by an individual constitute ‘the Role’. The RA is the process of examining a specific Role in detail, in order to identify all the component duties and tasks, the Conditions under which the Role is performed, and the Standards to be achieved when performing the Role. The ‘person in the Role’ should also be considered. In this way, it will be possible to identify the Knowledge, Skills and Attitudes/behaviours necessary for effective performance. The RA should examine:

   a. role objective and responsibilities.

   b. principal duties and supporting tasks, i.e. the Performance and the Knowledge, Skills and Attitudes required to perform the Role.

   c. levels of supervision.

   d. the conditions which cover environment, work conditions and equipment, for example.

   e. Role Standards.

   f. aspects of the Role found to be distasteful or unpleasant.

   g. frequency of task performance and percentage of personnel performing the tasks.

   h. likely job changes and consequences of inadequate performance.

   i. task criticality.

   j. Role-related factors influencing knowledge and skill fade (or competence retention).

44. **Identification of Role – 1.3.1A.** There is a danger of concentrating wholly on the Role and so there is a requirement to widen the perspective to consider it in context. A Role does not exist in isolation but within the context of a particular organisation and situation. This context may affect not only the way the RA is conducted but also the eventual design of the training solution. As part of the identification process, users may wish to produce a Role Specification and/or Role Description within the context of the individual Role, taking into consideration the factors listed below. Any identification process should consider:

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45 Task is a major component of a Role or duty that can be produced, compiled, achieved and/or accomplished by itself.

46 A ‘job’ can be made up of many Roles. Therefore, it can be argued that jobs (in the traditional sense of a person conducting a single task requiring a single skill, for example) seldom exist. Accordingly, it is more appropriate to analyse a Role that a person will fulfil. An example would be a RN Steward, who is trained in the Role of Steward but routinely has other Roles and duties aboard ship that are not related to being a Steward (such as firefighting and First Aid). Training that person for the job of steward/fire fighter/First Aider is impractical, but training that person for the Role of steward, then the Role of fire fighter and the First Aider makes more sense. Thus RA is a more logical term than Job Analysis and more reflective of what this analysis actually does.

47 TAFMIS has forms entitled ‘Role Specification’ and ‘Role Description’ to assist with this process.
a. higher level context, including strategic context operational doctrine and team/collective scenarios.

b. external context, including wider environment and conditions, for both individual and team/collective, and number of personnel fulfilling the Role.

c. internal context, such as organisational structures, Role dependencies, relationships and responsibilities, and the training audience, throughput (1.2.2) and selection processes.

45. As part of the Role identification process, it may be useful to consider:

a. **Role objectives.**
   
   (1) **Main.** A short, concise statement of the main objective of the Role, phrased in terms of the Performance expected. It should begin with a verb denoting action. Vague terms such as ‘to know’ or ‘to understand’ should be avoided.
   
   (2) **Subsidiary.** Written in the same format, these either amplify the main objective by showing what must be done to achieve it or indicate additional areas of Performance within the Role.

b. **Duties and tasks.** Duties are the principal activities of the Role holder, are directly related to the Role and are subordinate to the overall Role objectives. They can then be broken down into their component tasks, sub-tasks and task-elements. This is achieved through the Production of a Role Scalar (1.3.2A) which is discussed later.

c. **Standards.** The Standards necessary for the satisfactory Role Performance should be considered and recorded.

d. **Conditions.** The Conditions under which the Role is performed. An exhaustive list of every trivial condition is not necessary and only the important Conditions should be recorded. The breakdown of Conditions into categories of ‘physical’, ‘intrinsic’, ‘social’ and ‘psychological’ may be used.

e. **Responsibilities.** Responsibilities should be listed under the headings of ‘to superiors’ and ‘for subordinates’. It would also be convenient to include under ‘responsibilities’ information to the degree of supervision exercised over the Role holder and the extent to which they would be held accountable for their own work or the work of others. This helps set the context.

f. **Difficulties and distastes.** This information can indicate the areas that need to be emphasised in training.

g. **Criticality.** The relative criticality of a task within a given Role should be listed using pre-defined categories (e.g. high, moderate, low). This information can be used to inform risk management activities and decision-making relating to refresher training requirements.

h. **Role-related factors influencing skill fade.** An identification of key factors influencing skill fade. It will be useful to consider both positive and negative influences
on skill fade so that the impact of changes to the design of the Role (e.g. increased or reduced complexity, modifications to equipment design and associated resources) can be assessed. This information, along with the KSA, Difficulty, Importance, Frequency (DIF) and criticality analyses will help to inform the identification of appropriate training Methods & Media for both the acquisition and refreshment of Role-related skills and knowledge.

46. **Production of Role Scalar – 1.3.2A.** A Role Scalar is produced by analysing the duties, tasks, sub-tasks and task-elements\(^{48}\) (*Performance*) that have to be performed and recording them diagrammatically\(^{49}\). The Production of the Role Scalar is a key part of the RA process as it defines the minimum Performance to be achieved in the Defence environment. Tasks within a Role should contain an object, a verb\(^{50}\) and sometimes a qualifier. An example of a task statement would be: ‘perform a daily routine service on a diesel engine’. A task can be defined as:

a. a specific action.
b. performed by an individual.
c. recognised by a definite beginning and an end.
d. performed for a relatively short period of time (could be hours but rarely days).
e. observable and measurable.

47. The four levels within a Role Scalar are as follows:

a. **Duties.** The major functions, or areas of responsibility, of the Role. They have no specific start or finish and tend to be general in nature (e.g. act as Unit Health and Safety Advisor).

b. **Tasks.** Major components of the Role that can be produced, compiled, achieved and/or accomplished by the individual. Each duty usually contains a number of closely related tasks that are essential for carrying out the duty.

c. **Sub-tasks.** Sub-tasks are the component parts of each task.

d. **Task-elements.** Task-elements are the sequenced step-by-step component of each sub-task.

48. The usual convention for the levels of a Role Scalar is shown in Figure 6.

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\(^{48}\) This was formerly known as Operational Task Analysis, i.e. an analysis of the ‘operations’ required.

\(^{49}\) There are a number of task analysis methods, akin to the Hierarchical Task Analysis recommended in this JSP for collective training, that would support the production of a Role Scalar. Other methods include Link Analysis and Operational Sequence Diagrams. See Part 2, Chapter 5, Section 5.1 for further information.

\(^{50}\) The choice of verb is critical when writing tasks, sub-tasks (and, later, training objectives). Verbs must be observable and measurable. More guidance on this aspect of Analysis and Design is given on the DSAT courses delivered at DCTS.
49. **Numbering system.** It is important to employ a hierarchical numbering system within a Role Scalar, as often it is cross-referenced to other training documentation. The numbering system should indicate the level and relationship of the particular components of the Role. An example of a numbering system is shown in Figure 7.

50. Role Scalars are particularly useful tools for:

   a. displaying a structure to the Role that may not be apparent in real life.

   b. illustrating the relationship and interdependence of the various parts of the Role. The impact of a failure to perform any particular task can therefore be determined.

   c. showing areas of commonality and difference between closely related Roles, thus indicating where rational restructuring could take place.

   d. showing tasks to be performed with new equipment, related to existing Roles, and thus help assess the impact of new equipment.

   e. the production of a Role PS and TOs.

51. Role Scalars also have disadvantages that should be considered: they do not contain Standards and Conditions and appear to give all tasks an equal importance. An important
consideration in developing the structure of a Role is the aim to describe what the Role holder does, or should be capable of doing, and not what they need to know. Determining the knowledge that is required to successfully perform a task happens during the KSA Analysis (1.3.4A). Role Scalars cannot in themselves be used to design training and should be supported by a full Role PS. However, they are a vital step in the production of required outputs such as a Role PS and TOs.

52. **DIF Analysis – 1.3.3A.** DIF Analysis is a method of analysing Role information through the Difficulty, Importance and Frequency of tasks and sub-tasks, with the aim of enabling early training decisions, such as the generation of Initial Training Categories. DIF Analysis provides an indication of the priority and standard to be applied to the training. The DIF Analysis assesses the difficulty, importance and frequency of tasks using a simple algorithm, which is shown in Table 2.

<table>
<thead>
<tr>
<th>Difficulty</th>
<th>Importance</th>
<th>Frequency</th>
<th>Training Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Difficult</td>
<td>Very Important</td>
<td>Very Frequent</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Moderately Important</td>
<td>Very Frequent</td>
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<td></td>
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<td>Moderately Frequent</td>
<td>2</td>
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<td>Infrequent</td>
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<tr>
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<td>Not Important</td>
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<td></td>
<td>Moderately Frequent</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>2</td>
</tr>
<tr>
<td>Moderately Difficult</td>
<td>Very Important</td>
<td>Very Frequent</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>2</td>
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<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Moderately Important</td>
<td>Very Frequent</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Not Important</td>
<td>Very Frequent</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>5</td>
</tr>
<tr>
<td>Not Difficult</td>
<td>Very Important</td>
<td>Very Frequent</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Moderately Important</td>
<td>Very Frequent</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Not Important</td>
<td>Very Frequent</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moderately Frequent</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Infrequent</td>
<td>6</td>
</tr>
</tbody>
</table>

*Table 2: A DIF Analysis Algorithm*

53. **Initial KSA Analysis – 1.3.4A.** A KSA Analysis is a systematic analysis of ‘Performance’ and/or ‘Standards’ in order to identify the necessary KSA required to perform

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51 In TAFMIS, Initial Training Categories are listed as DIF Training Categories.
a Role. A KSA Analysis moves on from what the Role holder does (captured in the Role Scalar, 1.3.2A), to identifying the KSA that have to be learned to perform the task. The results of an Initial KSA Analysis will help with the generation of TOs and EOs and the selection of the most appropriate training Methods & Media, during Element 2 (Design). Two examples of Initial KSA Analysis relating to a Role are at Annex A.

54. **Learning outcomes.** Learning is defined as a change in behaviour as a result of the acquisition of Knowledge, Skills and/or Attitudes. As a result, therefore, of learning, a change in human attitude or capability may occur. As part of KSA analysis, Attributes may also be identified. Attributes are a quality or feature regarded as a characteristic or inherent part of someone or something. Attributes are more likely to be documented as part of the selection process rather than the training process but are included in the examples at Annex A.

55. **Knowledge.** Knowledge is information acquired through experience or education; the theoretical or practical understanding of a subject. Knowledge generally involves recalling information, e.g. the knowledge of rules and regulations, names, sequences, classifications, methodology, events, principles or theories. Whenever a task is performed, knowledge is required. When carrying out a task, a possible pre-requisite is knowledge of:

   a. When to perform; what are appropriate tactics, techniques, procedures, tools or materials?

   b. Where are the tactics, techniques, procedures, components, materials and/or equipment?

   c. How to use/operate the tactics, techniques, procedures, materials, tools and/or equipment?

   d. What are the safety procedures or constraints; what possible dangers are there?

   e. What are the testing or checking requirements and procedures involved?

   f. What constitutes task completion?

56. It is important to note that a Role PS can refer directly to a requirement for knowledge when it is linked to the practical performance in a Role as stated in the Role PS. KSA Analysis identifies the supporting knowledge required for task performance. Training should only contain knowledge which is essential to the satisfactory performance of a task. For example, where key references are available at the time a task is performed, there may only be a requirement to learn how to access the information rather than learn the contents. Wider knowledge acquisition and application is the remit of education.

57. **Skills.** A skill is defined as an organised and co-ordinated pattern of mental and/or physical activity. It is the ability to do something well. It is built up gradually by repeated correct training or practice. At Initial KSA analysis, the skills listed are kept quite high level. Later on in the Design process the split into mental and physical/practical skills can be further refined:

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52 Users may also wish to seek additional guidance regarding KSA from the Competence Retention Analysis Technique (CRAT) User Guide. Part 2, Chapter 5, Section 5.1 provides further information.
a. **Mental skills.** These constitute the knowing how (procedural knowledge) as opposed to the knowing what (facts) (e.g. knowing how to calculate percentages, knowing how to interpret technical data, knowing how to classify sonar contacts). It would not be possible for the trainee to learn all of these things as facts because too many individual instances exist. The mental skills the trainee learns, therefore, enable them to respond to entire classes of situations, e.g. to make decisions when presented with information and alternative courses of action.

b. **Physical/practical skills.** These can be described as learned capabilities of performing actions in an organised and fluid manner. They are overt and observable during their performance. Skills may be discrete (operate a switch) or continuous (fly/drive a vehicle). These skills are learned in connection with common activities such as using a computer, driving a car or playing a musical instrument. Many tasks performed in Defence can be categorised as having a large physical component, e.g. stripping and assembling a weapon (discrete), flying an aircraft (continuous) and tying a bowline (discrete). Complex physical skills can often be broken down into smaller sub-skills, which can be learned separately and then put together for total performance. An example of this is swimming, which has 3 sub-skills (arm action, leg action and breathing technique), which can be learned and practised separately and then performed as one. More complex skills such as flying/driving, are similarly broken down into their component parts and taught as discrete skills in discrete lessons.

58. **Attitudes.** An Attitude is a way of thinking and feeling about something, often but not always demonstrated through behaviour. The identification of Standards relating to personal qualities and Attitudes is perhaps the most challenging part of the KSA Analysis. This is because Attitudes cannot always be observed directly and hence the creation of definable standards can prove difficult. Attitude is defined as a predisposition resulting in a tendency to act or react in a certain manner when confronted with another person, group, object, situation or idea. It is important to understand that this predisposition to think and feel in a certain way does not necessarily result in observable behaviours. An example of this could be an individual who holds an Attitude that all dogs are dangerous. However, this attitude may not be obvious to others when the individual is handling a dog with which they are familiar and have learned is friendly. Table 3 illustrates how Attitudes can manifest themselves.

<table>
<thead>
<tr>
<th>Attitudes generally:</th>
<th>• are learned from experience (or from others);</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• may include thoughts, feelings and behaviours;</td>
</tr>
<tr>
<td></td>
<td>• influence our behaviours towards people or objects;</td>
</tr>
<tr>
<td></td>
<td>• may be stable and persist over time; but</td>
</tr>
<tr>
<td></td>
<td>• can be changed rapidly through experiences,</td>
</tr>
<tr>
<td></td>
<td>circumstances, education or training.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attitudes have three main components:</th>
<th>• what we think, e.g. ‘all dogs are dangerous’.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• what we feel, ‘anxiety or fear near dogs’.</td>
</tr>
<tr>
<td></td>
<td>• how we act, ‘avoid or approach dogs’ (observable behaviour).</td>
</tr>
</tbody>
</table>

*Table 3: Attitudes*

59. Within each role there are tasks that have an attitudinal component related to their performance. Initial KSA Analysis identifies Attitudes associated with role performance to determine the required direction of that attitude. At this stage the Analysis of Attitude can
be quite high level. The depth of the analysis within the attitudinal domain will occur at course design stage/A Spec stage. Once the Attitudes required to fulfil a Role are identified, training can be designed to achieve them. Knowledge and skill training can be wasted if attitudinal training is ignored. A lecture on computer security may be successful in imparting information on how viruses are transmitted but unless it develops an attitude of security consciousness the trainees may not use the knowledge they have gained on the subject.

60. To assess an attitude, behaviour must be observed, possibly over a period of time. To assist subjective judgements on attitude an objective criteria should, where possible, be used to support the decision. Defining the negative, what is unacceptable behaviour, can result in a simpler and more precise Standard. A Behaviourally Anchored Rating Scale (BARS) is an example of a tool which can be used to assess observable behaviour objectively. Although a BARS (Table 4) can be used to measure attitude indirectly through observing behaviour, much care is needed when inferring Attitudes from observable behaviours alone. Attitudes may also be directly measured using validated questionnaires or other psychometric instruments\(^{53}\). Some examples are presented in Table 4. Note that whilst BARS is predominantly a tool used in the training environment, forming part of the A Spec if appropriate, it is mentioned here because it is useful to bear it in mind at the RA stage.

### Communication

<table>
<thead>
<tr>
<th>Rating</th>
<th>Tick</th>
<th>Behavioural Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsatisfactory (-1)</td>
<td></td>
<td>Speaks to others in an aggressive manner.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fails to listen effectively</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ignores the opinions of his/her peers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Does not articulate logically or clearly</td>
</tr>
<tr>
<td>Meets expectations (+1)</td>
<td></td>
<td>Can adapt style of communication appropriately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communicates clearly and logically so others understand</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Actively takes part in group discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrates active listening skills</td>
</tr>
<tr>
<td>Exceeds expectations (+2)</td>
<td></td>
<td>Leads group discussions effectively and appropriately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chooses specific language and detail to capture and maintain attention of others</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrates appropriate confidence and assertion without arrogance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can present arguments logically and clearly without aggression</td>
</tr>
</tbody>
</table>

**Overall Score obtained during observation =**

| Table 4: Behaviourally Anchored Rating Scale |

61. Although Attitudes may be inferred from observable behaviours this is prone to biases (e.g. a group of soldiers may set up an Observation Point (OP) with no attempt to camouflage their position. This might infer that they do not care (Attitude) about concealment. However, they may simply not know (Knowledge), or have forgotten about

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\(^{53}\) Defence uses a Continuous Attitude Survey which measure and captures Attitudes towards many aspects of military life.
concealment rather than not care about it. Similarly, they may lack the ability (Skill) to properly conceal their OP). Before remedial training is implemented, identifying the correct domain is critical. Targeting an Attitude may be inappropriate if the knowledge or practical Skill is lacking.

62. **KSA Analysis procedures.** The KSA Analysis uses information from a wide variety of sources. Referenced documentation, Role and task information, interviews with Role holders and supervisors are just some examples. It is likely that the TRA will conduct the KSA Analysis during this Element and then hand it over to the TDA in Element 2 (Design) for further refinement (2.4.1), in order to specify the AStrat (2.4) for KSA. An alternative and more detailed approach to KSA has been developed based on advances in psychology. This approach enables consideration of skill fade and refresher training requirements. Information on this can be found at Annex B.

63. **Role PS** – **1.3.5A.** A Role PS is produced and maintained by the TRA and is a detailed statement of the tasks, sub-tasks and so forth that are required to be undertaken by an individual to achieve the articulated workplace Performance. It includes the Conditions under which the tasks will be undertaken, the Standards that must be achieved, and adds an indication of the importance of the training required to achieve the task Performance. It forms the basis for all subsequent work leading to the production of TOs. This ensures that the need for training and associated resources is justified by the needs of the Role. It also ensures that the training undertaken remains focused on the Role. Whilst a single Role PS can be produced to cover all the duties associated with a Role, a Role PS may be written for a specific duty where it is shared across many Roles (such as fire fighting and field craft). The Role PS is developed using:

   a. **Role Scalar.** Carry across the duty, task and, if appropriate, sub-task statements from the Role Scalar. The numbering system used should be used on the Role PS to ensure the two documents are linked.

   b. **Conditions.** Identify and list the Conditions under which the tasks will be performed. The Conditions statements should specify the physical location, level of supervision and any other particular environmental factors associated with the task.

   c. **Standards.** Identify and list the Standards to which the tasks will be performed. These must all be identifiable and measurable. The Standards will be either:

      (1) **Product Standards.** Minimum absolute Standards, such as time, accuracy and safety limits.

      (2) **Process Standards.** It may be important that certain procedures are followed in a particular sequence in order to successfully achieve the Performance. Often these will be listed in a technical manual and the Standard may include a reference to this. If not, these steps may be given as process Standards and are the essential sub-tasks and task-elements from the HRA.

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54 The term Role PS replaces Operational Performance Statement (OPS). The logic being that the word ‘operational’ can cause confusion with training for operations and the operational delivery of training, particularly when considered in relation to collective training (CT).

(3) **Combination of Process and Product Standards.** Where Standards are defined in more detail in other documents, the references should be in full and include the issue number and date. Where publications change frequently reference may be made to the ‘most recent issue’.

d. **Training category.** As covered in training categorisation below (1.3.6A), this states the training level required to achieve the task Performance and the balance between training to be managed and/or delivered by the TDA (e.g. in a training establishment) and training conducted in the workplace. Tasks not requiring any training should also be identified.

64. **Performance, Conditions and Standards.** It is essential that the Performance, Conditions and Standards identified reflect the realities of the Role. An example of a simple Role PS is at Table 5.

<table>
<thead>
<tr>
<th>Task No</th>
<th>Performance</th>
<th>Condition</th>
<th>Standards</th>
<th>Trg Cat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7.1</td>
<td>Attack the fire</td>
<td>1. At sea and in harbour throughout the world. In all weather and sea states. 2. In all CBRN states. 3. During night or day. 4. In times of peace, conflict or war. 5. For all fire types: oil based, carbonaceous, electrical. 6. Using appropriate First Aid firefighting equipment for type of fire. 7. Wearing basic firefighting rig.</td>
<td>1. Individuals to be ready in all respects to attack fire within 2 mins of alarm being raised. 2. Health &amp; Safety and Equality, Diversity &amp; Inclusion are applicable to all duties and tasks. 3. Doctrine IAW BRs 2170 and 3007, current DCI/RNTMs and other publications. 4. Demonstrating instinctive actions and accurate Whole Ship Knowledge in relation to Firefighting, particularly regarding general firefighting hazards and specific hazards within each compartment. 5. Demonstrating awareness of all Roles and responsibilities of the teams and i/c within both the Harbour Fire Organisation and Standing Sea Fire Party.</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5: Example From a Simple Role PS

65. **Role PS.** At this stage the Role PS should be prepared to be passed to the design team. It should be based upon Performance, Conditions, Standards and training categorisation. An example of a more detailed Role PS format is at Annex C.

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56 In this instance, however, analysts must ensure that their references are up to date.
66. **Competence/competency frameworks.** The user may wish, as a result of the RA (particularly the KSA Analysis (1.3.4A)), to consider the production of either a competence framework or competency framework, or both; either in addition to, or instead of, a Role PS. This could be done if a people focus, rather than pure task focus, is required. Whilst these frameworks have not been included in the DSAT process\(^\text{57}\), it does not mean that they cannot be used, where appropriate and provided that they contribute to the creation of the Training System. Information on frameworks that may assist the user is at Annex D.

67. **Initial Training Categorisation – 1.3.6A.** A thoroughly conducted RA will be wide ranging and will include consideration of levels of supervision, work conditions, task criticality, difficulties and distastes, frequency of task performance, Role-related skill fade factors, percentage of personnel performing the Role and consequences of inadequate performance. All of this information, in conjunction with information on trainee entry standards, trainee throughput and knowledge of the likely training environment, can lead to conclusions regarding the balance between training delivered as part of the TPS and training delivered as part of the WTS. These conclusions are expressed through the use of training categories. A number of techniques may be used to derive training categories, with the main analytical tool being the DIF Analysis already conducted (1.3.3A). This technique involves looking in some detail at the nature of the Role in terms of the difficulty, importance and frequency of tasks and sub-tasks. Other factors relating to the Role may be considered, e.g. level of supervision and numbers undertaking the Role. Training categories are defined in Table 6.

<table>
<thead>
<tr>
<th>Training Category</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>By the end of the training activity the trainees will have performed the whole task several times, to the full Role Standard, and under realistic scenarios and conditions in which the physical, functional and environmental fidelities were accurately reproduced. The trainee will be able to perform the task competently, immediately on arrival in the workplace.</td>
</tr>
<tr>
<td>2</td>
<td>By the end of the training activity the trainee will have performed the whole task at least once to full Role Standards, under realistic physical, functional and environmental conditions and in a realistic scenario. The trainee should be able to perform the task on arrival in the workplace.</td>
</tr>
<tr>
<td>3</td>
<td>By the end of the training activity the trainee will have performed the whole task in a training environment to a lesser Standard than required in the Role (safety Standards to be met in full).</td>
</tr>
<tr>
<td>4</td>
<td>By the end of the training activity the trainee will have demonstrated an adequate level of underpinning Knowledge and principles required but will not have applied it to develop the Skills required to perform the task.</td>
</tr>
<tr>
<td>5</td>
<td>All training delivered in, or under the auspices of, the workplace.</td>
</tr>
<tr>
<td>6</td>
<td>Trainees do not require any training.</td>
</tr>
</tbody>
</table>

*Table 6: An Explanation of Training Categories*\(^\text{58}\)

68. **Other criteria influencing training categories.** Once a suggested training category has been identified (using information from the DIF Analysis), it should be subject to further

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\(^{57}\) Noting that a Role/Team PS is a Competence Framework which is considered sufficient for most training design requirements.

\(^{58}\) It is recognised that Training Categories require further review to reflect the blended approach to Defence training.
review as other factors may result in an increase or decrease in category. Other criteria that influence the training categories that relate to the Role environment are listed below:

a. **How many people perform the task?** This may determine the need for training and the priority given.

b. **How much time is spent on the task?** This can sometimes be more important than frequency.

c. **Realism and safety.** These considerations may make it impossible to conduct any training. Tasks falling into this category, and how they are dealt with, are covered in the next Section (Element 2, Design, 2.2.3, RTGS).

d. **Degree of supervision in the workplace.** If closely supervised when performing a task, the training category may be reduced since the supervisor can detect errors in-role and then correct them.

e. **Time interval between training and first performing the task.** The training Standards may deliberately be higher than the required Defence standard in terms of timing or accuracy to avoid knowledge/skill fade.

f. **Legislation, regulations and government policy.** Regardless of training category, a task may have to be included in training if those trained are to be authorised to carry out the task.

g. **Legally mandated civilian accreditation.** The inclusion of training for a task originally allocated a low category may be critical for obtaining legally mandated civilian accreditation, which is a mandated requirement of that Role. An example is the requirement to obtain a civilian driving licence before progressing to driving military vehicles.

**TGA**

69. **TGA – 1.4A.** The purpose of the TGA is to identify the **additional** training requirement of the affected Role holders by determining the training gap between the Performance as stated in the Role PS and any **existing** training Performance Standard(s). This analysis also enables the impact upon Defence capability to be assessed if the new or changed Defence capability is implemented **without** additional training. The TGA should provide:

a. an update of the information contained in the Scoping Exercise Report and RA (if required).

b. the additional learning requirements, if any, of the Role holders in terms of KSA at the sub-task and task-element levels.

c. a summary statement of the tasks identified for training.

d. statements of Training Gaps\(^{59}\), in terms of any Performance delta, between the requirements of the Role PS and any existing TOs.

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\(^{59}\) There may be multiple training gaps. For example, there will be two gaps if some personnel are migrating from a predecessor system to a new system, while others are coming directly from basic training to the new system. Early knowledge of manning plans is important; if this information is unavailable, assumptions must be made and clearly stated.
e. The decision whether to provide additional training or not, by providing a summary of the implications of the new Performance requirements when compared to existing training. This should be presented as statements for each task, identifying additional workplace, unit and/or collective training requirements with a statement of any associated penalties regarding reduction in capability. If the option to continue existing training with existing resources is an acceptable risk for all Role PS identified in the RA, then the TNA is complete and a TOA may not be required.

f. Whilst the TNA is designed to look at the gap that cannot be delivered by existing training, it should also consider the resource implications on existing training activities and the ability of those Training Providers to deliver in respect of a change in training throughput.

70. **Statements of Training Gaps – 1.4.1A.** These are statements in terms of the Performance delta between the requirements of the Role PS and any existing TOs and EOs, including associated specialist qualifications, for each affected Role holder. These gaps represent the impact on the training requirement for the continuation of existing training using existing resources.

71. **Draft TOs – 1.5A.** At this point TOs should be drafted in broad terms in accordance with the guidance given at Step 2 (Design) by using the Role Scalar, the Performance, Conditions, Standards and training categories contained within the Role PS. It is advisable to consider the KSA deductions of the analysis during the production of the draft TOs, and vice versa. TOs, as well as their dependent EOs and KLPs are then further refined and developed during Element 2 (Design) (2.1). It may be that the draft TOs created at this stage are sufficient and do not need further refinement but they are certainly not endorsed at this stage.

**TOA**

72. **TOA – 1.6A.** The TOA should primarily make a recommendation as to a cost-effective training solution that meets the identified tasks or competences that require training. The TOA should comprise a Fidelity Analysis, Location/Environment implications and Methods & Media options.

73. **Fidelity Analysis – 1.6.1A.** The term ‘fidelity’ denotes how closely a set of procedures were implemented as they were supposed to have been. Fidelity can be defined as, ‘the exact correspondence with fact or with a given quality, condition, or event; accuracy (e.g. the fidelity of the movie to the book). The degree to which an electronic system accurately reproduces the sound or image of its input signal’. This analysis should be conducted as a result of the production of a Role PS derived from the RA, and include any existing training Performance Standards.

74. **Functions.** Fidelity Analysis considers each relevant Performance objective in the Role PS to assess the extent to which the training environment should replicate the

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60 Guidance on the production of TOs can be found in the next Section (Element 2 Design, Stage 1, 2.1).
61 Not all organisations carry out Fidelity Analysis at this stage. Some organisations carry it out later on in the design process.
62 For example, if the Role conducted in the workplace environment (the real world) must be done at 100%, and the training environment can only replicate the workplace environment to 89%, then that is the fidelity to which the training requirement matches the role requirement. It is not to be confused with Gap Analysis, as fidelity is about replicating the totality of the real environment in training; rather than seeking the gap between existing training and new/changed training requirements.
workplace (real) environment to enable training to be effective. Decisions made at this stage can have a significant impact on the nature and cost of training solutions, as fidelity can be a significant cost driver so it is important not to ‘gold plate’ the fidelity requirements, but instead determine the appropriate level of fidelity that is essential to achieve the desired training effect. The results of Fidelity Analysis will help inform the Conditions under which training should be conducted to adequately prepare trainees for their future Roles.

75. **Categories**. Fidelity can be divided into four categories and sub-categories, combinations of which may apply to each Role PS task being analysed.

   a. **Physical fidelity.** Physical fidelity can be useful to familiarise trainees with the visual, spatial and tactile characteristics of equipment, consoles, compartments, platforms and threats (including applicable reference manuals, Standing and Emergency Operating Procedures etc). Physical fidelity can be broken down into these sub-categories:

      (1) **Layout.** Position of the controls etc, relative to each other.

      (2) **Look.** Shape, colour, luminescence and size of interface.

      (3) **Feel.** Feel and movement of the interface during use.

   b. **Functional fidelity.** Functional fidelity is useful in providing trainees with exposure to equipment functionality, doctrinal procedures, and maintenance routines which are required to be exploited in order to deliver the desired military effect. Functional fidelity can be broken down into these sub-categories:

      (1) **Format.** Format of data displayed or action taken.

      (2) **Content.** Information displayed or heard, frequency, text colour etc.

      (3) **Response.** Data change rate and display response times.

   c. **Environmental fidelity.** Environmental fidelity can be useful in preparing or ‘acclimatising’ trainees for the conditions they will be operating under, and simulating some of the conditions that can hinder Performance. It can be easy to ‘gold plate’ environmental fidelity requirements beyond what is essential to provide the necessary cues, stimuli and responses, but high levels of environmental fidelity can be beneficial in exposing trainees to complex operating environments and ‘fog of war’ type issues. Environmental fidelity can be broken down into these sub-categories:

      (1) **Sound.** Background noise, conversation and sympathetic resonance.

      (2) **Motion.** Incidental movement of the system, equipment or platform.

      (3) **Ambience.** Heat, light, smell, smoke, humidity etc.

      (4) **Geographic features.** Effects on sensors, infrastructure, SOPs etc.

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63 Further guidance on fidelity categories and their application with case studies is provided in the Guidebook of Decision Support Tools. Further details are at Part 2, Chapter 5, Section 5.1.
d. **Tactical and cultural** fidelity. Tactical and cultural fidelity will help identify requirements that enable individuals and teams to *train as they intend to operate*. Exposing trainees to the types of units, threats, allies (including neutral or ‘white’ forces), cultural issues and geographical locations that they will experience on operations, can also be used for mission rehearsal training or tactical development. Modern training technology, particularly simulation, enables accurate representations to be included in training quickly and cheaply. Tactical and cultural fidelity can be broken down into these sub-categories:

1. **Threats.** Enemy characteristics (number, tactics, equipment etc).

2. **Allies/Neutrals.** Allied and neutral forces characteristics (number, tactics, equipment, culture etc).

3. **Conflict character and location.** Type of operation, presence of media and/or Very Important Persons (VIPs), cultural/religious behaviours, historical implications, infrastructure and building implications etc.

4. **Team interactions.** Command and control (C2) relationships, communications, situational awareness.

76. **Fidelity Requirements.**

- **Task and sub-task level.** Every relevant task contained in the Role PS should be analysed for its respective Fidelity requirements, based on the applicable fidelity categories. Depending on the complexity of the capability involved, it may be necessary to articulate fidelity requirements at the sub-task level if those stated at the task level do not adequately capture the relevant fidelity criteria details.

- **Team/collective performance.** Analysts should also consider the fidelity requirements of any team/collective Performance criteria that have been established in support of the new or revised capability, to contextualise the individual training need.

- **Fidelity factor levels.** Table 7 defines 4 levels against which each of the fidelity sub-categories can be measured for each task/sub-task. However, analysts should not state fidelity requirements simply as ‘high, medium, low, none’ as this is unquantifiable and gives no meaningful guidance to designers of the eventual training solution. Users should also include specifics of the fidelity requirements for each Performance criteria within each applicable category and sub-category. At Annex E is an example of a completed Fidelity Analysis.

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64 To succeed on many operations, UK Armed Forces will need to understand and interpret the nuances of local cultures with and within which they will be operating. Introducing cultural elements into training will be essential in many cases - Future Character of Conflict, Development, Concepts and Doctrine Centre, 2010.

65 High Level Operating Concept (HLOC), Ch 4.
<table>
<thead>
<tr>
<th>Factor</th>
<th>Indicator</th>
<th>Definition</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None</td>
<td>Not applicable</td>
<td>Has no impact on training</td>
</tr>
<tr>
<td>1</td>
<td>Low</td>
<td>Replication not important</td>
<td>Little impact would be made on training except to add realism</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Replication moderately important</td>
<td>Significant impact would be made on the training. The task contains elements which requires exact replication</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>Exact replication important</td>
<td>Has a significant impact and is essential to training</td>
</tr>
</tbody>
</table>

Table 7: Levels of Fidelity

77. **Location/Environment implications**66 – 1.6.2A. The training environment and implications of location for each training solution may well require analysis at this stage. For example, constraints on training resources and the availability of real equipment for training may force the emphasis towards workplace training. The same would be true if it is not possible to replicate critical Role PS Conditions in training establishments or via distributed training. Alternatively expensive and scarce training equipment or qualified trainers may only be available in [some] training establishments. It is therefore important to determine an estimate where the balance between training to be delivered in a training establishment and workplace training will fall. It is based on a careful analysis of exactly what the TRA requires, tempered by that which is deliverable and can only be achieved by consultation with the TRA and the Training Provider, who will have knowledge of existing training and current training facilities and resources. This will later result in the allocation of TOs to a TPS, WTS, or, where no training will take place, the Performance, Conditions and Standards to a RTGS67. The output from this work could be an amendment to the Initial Training Categories or recommendations that take account of both DIF Analysis results and the impact of all other Role, training and resource factors.

78. **Methods & Media options** – 1.6.3A. Methods and/or Media68 options, or combinations thereof, that will partially or fully meet the training requirement, must be explored. The Methods & Media options selected will depend upon the type of training, training policy, training throughput and good practice. An estimation of the relative training effectiveness of each training Media69 option required to bridge the training gaps (as determined in 1.4.1A), based upon the TGA of each option and the Defence need is required. These options are then further refined in Element 2 (Design, Stage 2, 2.5) when selections are made to ensure the optimal blend of Methods & Media. Choosing options now is important, so that they can inform the Cost Benefit Analysis (CBA) (1.7.1) work later, and Methods & Media freedoms and constraints can be established, which may then shape Element 2 (Design).

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66 Locations/Environment implications is synonymous with an Early Training Analysis (ETA) and includes all the same criteria for the user to consider (the ETA opening sentence (DTSM 1, 2.46) was: ‘The training environment may well be a factor that requires consideration. For example, constraints on training resources and the availability of real equipment for training may force the emphasis towards workplace training’).

67 Which all form parts of the FTS. These are covered in Element 2 (Design, 2.2).

68 The TNA should consider non-Media approaches, e.g. balance between schools and workplace training.

69 The TNA should consider combinations of Media, as well as individual Media, as it is likely that the combination will provide a more effective and flexible approach to the Training solution.
TNA: STAGE 2 – ANALYSIS (COLLECTIVE TRAINING)

TCTA

79. TCTA applies to all Tiers\(^70\) above individual training; that is, from teams (and sub-teams) through units to formations and task forces\(^71\). Definitions of collective training tiers are given at Table 1. Team/Collective TNA is a fundamental element of the acquisition process and may be required for:

a. determining the collective training necessary to achieve force generation and sustainment at Tier 0 and higher.

b. determining the training necessary to generate and sustain teams and sub-teams in support of force generation.

c. determining requirements for collective training when acquiring capabilities.

d. determining requirements for the acquisition of collective training systems or services.

e. providing other training input to the acquisition process\(^72\).

f. determining amendments to collective training that may be occasioned by a change\(^73\) to one or more capabilities.

g. determining amendments to collective training that may be occasioned by operational or other lessons identified.

h. as directed by collective training CEBs.

80. Limitations. This Guidance sets out a generic process that can be followed in undertaking a TCTA. It should not be taken as a definitive list of activities to be followed because the wider TNA should always be tailored to the context as appropriate. It should be read in conjunction with the Acquisition System Guidance (ASG)\(^74\) and JSP 886 (Integrated Logistics Support). This Guidance assumes throughout that collective training and assurance are conceptualised via the exemplar model in Defence Direction for Collective Training, in Part 1, Chapter 1, Section 3.1.

81. **TCTA – 1.3B.** The Team/Collective Joint and Mission tasks and sub-tasks performed by the team constitute ‘the task’. The TCTA is the process of examining specific tasks detail, in order to identify all the component sub-tasks, the Conditions under which the tasks are performed, and the Standards to be achieved when performing each task. The ‘role in the task’ should also be considered. In this way, it will be possible to identify the teamwork requirements for effective Performance. To derive Team PS for team/collective capabilities, the Task Analysis should comprise:

\(^70\) Such as Training Resources Estimates or other Training Defence Lines of Development products.

\(^71\) Based on the policy assumption that collective training is ‘training that is aimed at improving the ability of teams, units or formations to function as a cohesive entity and so enhance operational capability’. It should be noted that, in some areas, Team/Collective TNA Guidance does not mirror Individual TNA.

\(^72\) See JSP 886, Volume 7, Pt 8.01.

\(^73\) For example, amendments may be driven by changes in legislation, policy or any of the Defence Lines of Development.

\(^74\) Further details are available at http://aof.uwh.dilf.r.mil.uk/
a. **Higher-level context.** The Defence Capability Framework and the Joint Task List (JTL) provide the overarching context for a capability. Users should also examine strategic doctrine and the horizon scanning literature to understand the place of a team or capability within the wider Defence setting.

b. **External context.** Given the generic capability statements provided by analysis of the higher-level context, the TCTA should then consider the environment within which a team or capability operates. This may be achieved in several ways:

(1) Deriving an **external team interaction table**, which notes the interactions with external actors or teams that occur, their content and products, and the means by which the interaction occurs. Table 8 provides an example:

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Content</th>
<th>Product</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team</td>
<td>External agent 1</td>
<td>Environmental information</td>
<td>Tactical picture</td>
<td>HF communications</td>
</tr>
<tr>
<td>External agent 1</td>
<td>Team</td>
<td>Updated orders</td>
<td>C2</td>
<td>HF communications</td>
</tr>
</tbody>
</table>

Table 8: Example of an External Team Interaction Table

(2) Deriving an **external team context diagram**, illustrating the interactions with the external environment in a graphic way. Figure 8 provides an example:

Figure 8: Example External Team Context Diagram

(3) Deriving **generic scenarios** that explain the interactions that occur with the external environment. Table 9 provides an example:

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Title and/or reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability effect</td>
<td>Joint or Mission Task List reference and description</td>
</tr>
<tr>
<td>Timing</td>
<td>When the scenario occurs</td>
</tr>
<tr>
<td>Environment</td>
<td>Where and in what context the scenario occurs (e.g. the location and the operational situation)</td>
</tr>
<tr>
<td>Forces</td>
<td>Enemy, own and neutral forces involved (as appropriate)</td>
</tr>
</tbody>
</table>
**Initiating conditions** | *What triggers the start of the scenario*
---|---
**Terminating conditions** | *What triggers the end of the scenario*
**Contributing outputs** | *What products must be delivered by the team to achieve the effect*

**Table 9: Example of a Generic Scenario Description**

(4) Note that these interactions will primarily be with other actors or teams but may also include non-human feedback, such as from sensors or automated systems that provide a picture of the operational environment.

c. **Internal context.** Having identified the external context, the process is repeated for interactions within the team or capability. Similar approaches may be used to understand how the team works, but it may also be appropriate to identify other aspects, such as the **organisational structure** governing how the team or capability operates. This may be expressed as a hierarchical tree and should specify **key roles**, without which the team cannot function or would function at a reduced level\(^\text{77}\) (expressed in terms of risk to capability). (This also provides a means of clarifying the **training audience** from the earlier scoping exercise.)

82. **Identification of team/collective Role – 1.3.1B.** The **Role definitions**\(^\text{78}\) that apply to the members of the team or capability which should set out interfaces between an individual and others.

a. Deriving an **internal team interaction table**, noting the **interactions** that occur within the team, their **content** and **products**, and the **means** by which the interaction occurs. Table 10 provides an example:

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Content</th>
<th>Product</th>
<th>Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agent 1</td>
<td>Team leader</td>
<td><strong>Environmental</strong></td>
<td><strong>Tactical picture</strong></td>
<td><strong>Internal communications</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team leader</td>
<td>Agent</td>
<td><strong>Updated orders</strong></td>
<td><strong>C2</strong></td>
<td><strong>Internal communications</strong></td>
</tr>
</tbody>
</table>

**Table 10: Example of an Internal Team Interaction Table**

b. Deriving an **internal team context diagram**, displaying the interactions within the team. As with the external context, these interactions may include sensors and systems. The level of complexity necessary should be influenced by the earlier constraints analysis. Figure 9 provides an example:

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\(^{77}\) Consideration must also be given to the Whole Force.

\(^{78}\) ToRs may suffice or else can be used to help derive Role definitions.
c. Other ways of analysing Team/Collective TNA context may also be used as necessary\textsuperscript{79}.

83. **Hierarchical Task Analysis (HTA) – 1.3.2B.** Once the context of a capability is understood, the next step is to build on it by undertaking HTA (in consultation with Subject Matter Experts (SMEs) as appropriate). This should:

a. start with strategic doctrine and the JFC-managed JTL to identify the highest-level overarching requirement, including coherence with the input of other Commands to any joint effects.

b. take account of operational doctrine as appropriate.

c. identify the relevant\textsuperscript{80} tasks from JTL-derived environmental Mission Task Lists (MTLs), including the specified Performance, Standards and Conditions against each task\textsuperscript{81}.

d. result in a **Capability or Team Task List** specifying the operational effects to be delivered by a team or capability.

84. This framework then provides the operational context for a statement of team or collective training performance. In the event that MTL is not available to a user, the HTA will need to be undertaken. Figure 10 provides an example:

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\textsuperscript{79} For other examples, see Huddleston, J.A. and Pike, J. (2011) *Training Needs Analysis for Team and Collective Training*. Human Factors Integration Defence Technology Centre.

\textsuperscript{80} Note that the greyed-out Mission Task in Figure 10 represents a collective task that has been determined to not be relevant to the analysis.

\textsuperscript{81} Note that this Guidance assumes that this significant task will have been undertaken by Commands in support of deriving environmental Mission Task Lists (MTLs) and the underlying Task Descriptions; otherwise, TCTA should contribute to this higher-level work.
The task hierarchy may also be illustrated in a table or spreadsheet, akin to the representation of a Role Scalar. When undertaking this analysis, it should be noted that each task might contribute to more than one Mission Task, as represented by the dotted lines in Figure 10. However, by identifying sub-tasks at the Command Mission Task level, it should be possible to recognise these prior to working on subsequent detail.

Critical Errors – 1.3.3B. Linked to the description of teamwork (1.3.4B), the user needs to appreciate what can go wrong in conducting a task and how errors should be managed. This then permits the training design process to incorporate these errors to ensure that teams have experienced and been trained in coping with and responding to them. The criticality of errors should be expressed in terms of risk to the delivery of capability.

Teamwork Description – 1.3.4B. Linked to critical errors (1.3.3B), the user should capture ‘what good teamwork looks like’ for each task, such that Performance can be assessed not just in terms of output (i.e. whether the task was completed to the required Standards) but also in terms of Attitudes and behaviours; otherwise, there is a risk that outputs are achieved with sub-optimal teamwork or, as a worst case, entirely by accident. ‘Good teamwork’ can be captured as appropriate, but should typically include scrutiny within the team of: coordination (of tasks, information and resources); communication; management (of workload, conflicts and errors); monitoring; planning; and synchronisation. This is approximately analogous to the KSA Analysis (1.3.4A) in a TNA for individual training.

Team PS – 1.3.5B. An important aspect of the TCTA is the sequencing of tasks, which is difficult to represent. A Task Description Table can capture this detail and should be used to describe each team task, which will then provide a statement of the required Performance against each Mission Task. Table 11 provides a suggested format. Ideally, each Joint Task and subordinate Mission Tasks should have been described by Commands in a format similar to Table 11, such that the user merely confirms or updates them as necessary. Table 11 provides a format for Team PS using a Task Description Table, or an alternative format is at Annex C.
Table 11. Team Performance Statement via an Example Task Description Table

89. The following should also be considered:

a. **Teamwork stressors.** Also linked to the description of teamwork, it is necessary to capture events that could increase the stress on a team and thereby test its ability to maintain team Performance under difficult Conditions.

b. **Standards.** The TCTA should include metrics (wherever possible and appropriate) and/or other measures of Performance against each task to permit subsequent evaluation. This should incorporate an assessment of the risk of collective skill fade, or the extent to which readiness consumption is likely (see Defence Direction for Collective Training in Part 1, Chapter 3, Section 3.1).

90. Although the completion of tables for each task element of HTA will prove time consuming, this will provide sufficient detail for subsequent training design, including how the task can be split across the four components of collective training. It should also be noted that the completion helps with detailing the training ‘gap’. Table 12 provides an example\(^{22}\) of a completed Task Description Table:

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\(^{22}\) Illustrative content only; in particular, the Mission Task detail is subject to review and the task will map to several Mission Tasks.
91. **Teamwork Error Analysis – 1.6.3B.** The concept of a collective training gap analogous to that in an Individual TNA (TGA) (1.4A) is inappropriate in Team/Collective TNA. This is because it is very difficult to determine a starting state for a team or capability comprising personnel at differing levels of ability and experience, even if all have met their individual Role PS. Rather than considering ‘gaps’ between existing and required Performance, the user can instead conduct a Teamwork Error Analysis with SMEs, that:

a. Compares the completed task descriptions with existing training provision, focusing on Teamwork Description (1.3.4B), Critical Errors (1.3.3B) and teamwork stressors.

b. Identifies whether existing training achieves the necessary tasks and provides for assessment via the metrics associated with the task Standards.  

c. Undertakes an analysis of the critical errors (1.3.3B) identified and the potential for readiness consumption associated with each task, providing a risk assessment against a default of not training the team in the management of the associated stress.

92. This Teamwork Error Analysis then provides a way to assess what training needs to be designed during Element 2 (Design) and/or what amendments are needed to existing training.

93. **OA – 1.4B.** The training overlay in the TCTA is the totality of the training design, infrastructure and other support functions necessary to deliver collective training, which will then be delivered through Element 2 (Design). Unless the TCTA suggests otherwise, it should be based on the conception of collective training and assurance and should clarify the anticipated training throughput (1.2.2) for each element, including initial surge, steady state and refresher training requirements, to then define the capacity requirements of the Training System.

94. **Collective training components – 1.4.1B.** Using the Teamwork Error Analysis (1.3.6B) associated with each task, the user should consider which components of collective training are most appropriate to train the task. The four components are:

a. **Supportive information,** or underpinning education, mental models and cognitive

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Note that there may be a ‘gap’ where existing training already covers the collective tasks identified but does not evaluate it as required.

Including the impact of losing keys Roles, as identified within the training Audience; see Defence Direction for Collective Training in Part 1.


Ongoing Dstl research is seeking to expand the evidence base and thinking in this area. Further information on research entitled ‘Development of a Model of Collective Competence Retention’ is detailed at Part 2, Chapter 5, Section 5.1.

strategies that support task completion (e.g. the theory and doctrine behind the collective task). Supportive information is typically appropriate for learning concepts and doctrine; the characteristics of capabilities involved in a collective task; and any theory underpinning the task. Distributed training or classroom training may be especially appropriate for training supportive information. This equates to individual training in a collective context, and should be captured in individual Role PS for each Role.

b. Just-in-time information, or information displays, demonstrations and corrective feedback that is available when required, but is relied upon less as trainees achieve greater competence (e.g. coaching and mentoring from trainers and information displays to enable transition from basic to complex training). This is also useful in identifying situations where teams achieve the task but particular individuals are weak and may need more individual or sub-team training. Just-in-time information typically focuses on coaching or implies designing-in information prompts that can be drawn upon to help with achieving a task. Coaching will be valuable in supporting Performance in collective training tasks and may be facilitated through SME or coaching support or else automated and/or trainee-selected prompts in simulators. These requirements should be captured to inform the development of an LSpec (2.6) in Element 2 (Design).

c. Part-task practice, or the repetition of recurring skills to achieve automaticity (e.g. drills or the practice of elements of the whole training task, such as threat identification or response). The user should analyse each task to identify potential part-tasks that can be undertaken to develop teamwork skills before (or in addition to) exposing the team to the whole task. Part-task practice is particularly appropriate for:

1. Sub-tasks that do not require the entire team or capability.
2. Sub-tasks with differing environmental requirements.
3. Complex sub-tasks or ones with significant risk associated, which will have been identified in Teamwork Error Analysis 1.3.6B).

d. Whole training tasks, or experiences of complete collective tasks that are organised from the simple to the complex include trainee support in the form of ‘scaffolding’ that is progressively removed (e.g. practising a team self-defence event in basic conditions with trainers providing guidance and support, then gradually increasing the difficulty of the conditions while reducing the trainer support). These training tasks are appropriate for training a collective task as a whole, once the team has been sufficiently developed. Note that where generic scenarios have been developed as part of TCTA, these may be suitable for generating training tasks (with additional information provided by Task Description Tables (1.3.5B)).

95. Draft CTOs – 1.5B. On the basis of this analysis, Team/Collective TNA should identify training scenarios that will ultimately be used to deliver collective training. These scenarios will then provide draft CTOs, which will be developed further into CTOs (2.1) and a (Collective) FTS (2.2) during Element 2 (Design).

96. EA – 1.6B. The next element of the TCTA is to identify the training environments that could be used in collective training. The EA comprises Fidelity Analysis, Training Environment Options and Methods & Media Options.

97. Fidelity Analysis – 1.6.1B. Fidelity analysis examines the necessary degree of correspondence between training and operational environments, should be undertaken on the rationalised training environments (1.6.3B)89. Although Fidelity Analysis is difficult to achieve objectively and stakeholders may already have preferences for what training environment is to be

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88 Physical fidelity relates to the appearance of training equipment or environments, whereas psychological fidelity relates to the experience of tasks or functions.
89 It is recognised that the JSP lists very similar approaches to fidelity analyses for individual and collective training. This will be addressed idc once the Collective Training Policy has been reviewed with the aspiration of merging these 2 sections.
preferred, the user should:

a. Use SME consensus or existing Training Systems where possible (including individual Training Systems as appropriate) to determine fidelity requirements.

b. Prioritise psychological over physical fidelity, as directed by policy\textsuperscript{90}.

c. Use the risk assessment approach in Teamwork Error Analysis (1.3.6B) to assign higher fidelity training environments to those tasks that have most risk associated with teamwork errors\textsuperscript{91}.

98. Fidelity Analysis for collective training can be divided into 5 categories\textsuperscript{92} each split into physical and psychological (Tables 13 to 17 provide detail). An example of a completed Fidelity Analysis is at Annex E.

a. **System fidelity requirements**, or the fidelity of a Training System.

<table>
<thead>
<tr>
<th>Physical Fidelity Requirements</th>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Can the item be represented smaller or must it be full size?</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Is the spatial location of an item important?</td>
<td></td>
</tr>
<tr>
<td>Spectral Controls</td>
<td>Do the colour and texture matter? What are the critical appearance attributes?</td>
<td></td>
</tr>
<tr>
<td>Controls</td>
<td>Are all the controls required and, if not, which are priorities?</td>
<td></td>
</tr>
<tr>
<td>Feel</td>
<td>Does the feel of the controls have to be replicated exactly?</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>If the system is portable, does it have to be a representative weight and balance?</td>
<td></td>
</tr>
<tr>
<td>Motion</td>
<td>What motion cues does it have to provide?</td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td>What sounds have to be produced and to what degree of fidelity?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychological Fidelity Requirements</th>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>Does the format of displays have to be replicated exactly?</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>Can any display content be omitted?</td>
<td></td>
</tr>
<tr>
<td>Response</td>
<td>Does system response have to be replicated exactly or, if not, what elements can be omitted and what tolerance on system response is acceptable?</td>
<td></td>
</tr>
<tr>
<td>Appearance to other system elements</td>
<td>If the system interacts with other entities in the environment, what attributes must it have (e.g. an aircraft has a radar signature and heat signature)?</td>
<td></td>
</tr>
</tbody>
</table>

Table 13. System Fidelity Requirements

b. **Resource fidelity requirements**, or elements of the training environment other than those involving people, such as equipment and logistics.

<table>
<thead>
<tr>
<th>Physical Fidelity Requirements</th>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectral</td>
<td>Do the colour and texture matter? What are the critical appearance attributes?</td>
<td></td>
</tr>
<tr>
<td>Feel</td>
<td>If the item can be touched, does the feel of the item have to be replicated exactly?</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>If the item is portable, does it have to be a representative weight and balance?</td>
<td></td>
</tr>
<tr>
<td>Sound</td>
<td>What sounds have to be produced and to what degree of fidelity?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychological Fidelity Requirements</th>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviour</td>
<td>What aspects of behaviour have to be produced to generate interactions with the team and to respond to interactions from the team?</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{90} See Defence Direction for Collective Training in Part 1.
c. **Human fidelity requirements**, or an appreciation of how complex interactions are and hence whether personnel can be modelled in a training environment by role-players, or if experts or even actual members of interacting teams are necessary.

<table>
<thead>
<tr>
<th>Physical Fidelity Requirements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Description</td>
</tr>
<tr>
<td>Spectral</td>
<td>What aspects of physical appearance and dress are significant?</td>
</tr>
<tr>
<td>Language</td>
<td>What language/dialect should the person speak if they interact by voice with the training audience?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychological Fidelity Requirements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Description</td>
</tr>
<tr>
<td>Behaviour</td>
<td>What aspects of behaviour, including stressors, have to be produced to generate interactions with the team and to respond to interactions from the team?</td>
</tr>
<tr>
<td>Interaction information requirements</td>
<td>Information required to generate interactions with the team or respond to team interactions</td>
</tr>
<tr>
<td>Knowledge, skills and experience</td>
<td>What knowledge, skills and experience are required to produce the required behaviour given the information and systems provided?</td>
</tr>
</tbody>
</table>

Table 14. Resource Fidelity Requirements

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d. **Manned system fidelity requirements**, or how realistic systems should be that appear in the training environment but are controlled by trainers, such as enemy forces.

<table>
<thead>
<tr>
<th>Physical Fidelity Requirements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Description</td>
</tr>
<tr>
<td>Spectral</td>
<td>Do the colour and texture matter? What are the critical appearance attributes?</td>
</tr>
<tr>
<td>Sound</td>
<td>What sounds have to be produced and to what degree of fidelity?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Psychological Fidelity Requirements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Description</td>
</tr>
<tr>
<td>Behaviour</td>
<td>What aspects of behaviour have to be produced to generate interactions with the team and to respond to interactions from the team?</td>
</tr>
<tr>
<td>Interaction information requirements</td>
<td>What information is required to generate interactions with the team or respond to team interactions?</td>
</tr>
<tr>
<td>Knowledge and skills</td>
<td>What knowledge and skills are required to produce the required behaviour given the information provided?</td>
</tr>
<tr>
<td>Appearance to other system elements</td>
<td>If the system interacts with other entities in the environment what attributes must it have (e.g. an aircraft has a radar signature and heat signature)?</td>
</tr>
</tbody>
</table>

Table 15. Human Fidelity Requirements

---

e. **Physical environment fidelity requirements**, or the fidelity of static features such as terrain that only require physical requirements, or dynamic features such as wind, waves or tide that require both physical and psychological requirements.

<table>
<thead>
<tr>
<th>Physical Fidelity Requirements</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attribute</td>
<td>Description</td>
</tr>
<tr>
<td>Appearance</td>
<td>Do the colour and texture matter? What are the critical appearance attributes?</td>
</tr>
<tr>
<td>Feel</td>
<td>If the item can be touched, does the feel of the item have to be replicated exactly?</td>
</tr>
<tr>
<td>Sound</td>
<td>What sounds have to be produced and to what degree of fidelity?</td>
</tr>
</tbody>
</table>

Table 16. Manned System Fidelity Requirements
99. **Training Environment Options - identification – 1.6.2B.** Based on the Fidelity Analysis (1.6.1B), the user should next identify options for training environments. These will typically be either live or synthetic\(^93\), further broken down into 3 categories\(^94\):

a. **Live**, or a simulation involving real people operating real systems.

b. **Virtual**, or a simulation involving real people operating simulated systems.

c. **Constructive**, or models and simulations that involve simulated people operating simulated systems.

100. These 3 categories may have further attributes:

a. **Embedded simulation**, or including simulations in operational equipment, such as training modes in an operations room.

b. **Networked or federated simulation**, or the connection of several simulators, such as the Army’s Combined Arms Tactical Trainer (CATT).

c. **Distributed or confederated simulation**, or the connection of simulators across different sites, such as UK participation in US Fleet synthetic training events.

d. **Synthetic wrap**, or an optimised live, virtual and constructive balance in which personnel operate real equipment in a live environment that has been extended through simulation, such as by providing an environmental picture.

101. Although these potential training environments may already have been rationalised, other considerations should be used to help identify the appropriate option(s):

a. **Safety**, including any legal requirements.

b. **Cost**, noting that this should be the anticipated through-life cost and could consider the sunk costs of already-acquired training environments or systems.

c. **Time**, specifically advantages in training time that may be achieved by not using live flying or steaming hours when only minutes on task are needed.

d. **Availability of resource**, such as limitations on exercise areas or constraints such as weather effects.

e. **Training features**, such as the ability to pause training to provide just-in-time information.

f. **Defence Lines of Development (DLoDs)** should also be examined for any implications (e.g. the doctrinal provenance in Defence Direction for Collective Training implies a need for greater interoperability in collective training, which may help with identifying potential training environments).

102. **Training Environment Option – specification – 1.6.2B.** Once fidelity requirements have

\(^93\) See JSP 939: Defence Policy for Modelling & Simulation (M&S).

\(^94\) See [http://aof.uwh.dilfr.mil.uk/aofcontent/tactical/mands/content/common_terms.htm](http://aof.uwh.dilfr.mil.uk/aofcontent/tactical/mands/content/common_terms.htm)
been analysed (1.6.1B) and options identified, the potential training environments should be specified in sufficient detail to allow for subsequent selection between them. Wherever possible, the specification should include consideration of the DLoDs and should be written such that it can be employed, if selected, in the acquisition of collective training.\(^\text{95}\)

Table 18 provides an example format for Training Environment Option specification, which can also be used to capture fidelity requirements:

<table>
<thead>
<tr>
<th>Training environment</th>
<th>For example: part-task practice for fighter control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option</td>
<td>For example: virtual</td>
</tr>
<tr>
<td>Description</td>
<td>A narrative description of the environment.</td>
</tr>
<tr>
<td></td>
<td>(When specifying what kind of Training System is needed: ‘The User shall be able to control aircraft in a Task Group context in order to deliver air battlespace management… [measures of effectiveness].’(^\text{95}))</td>
</tr>
<tr>
<td></td>
<td>(When revisiting the analysis to specify how to build the Training System: ‘The System shall be capable of supporting x air tracks simultaneously in order to support workload management’ [measures of Performance].’(^\text{95}))</td>
</tr>
<tr>
<td>Resources</td>
<td>Consideration by DLoD as appropriate</td>
</tr>
<tr>
<td>Training overlay</td>
<td>Supporting training components (e.g. just-in-time information) and evaluation</td>
</tr>
<tr>
<td></td>
<td>Trainer requirements and tasks</td>
</tr>
<tr>
<td>Training environment</td>
<td>Detail of relevant fidelity requirements</td>
</tr>
<tr>
<td>Environment requirements</td>
<td>An overview based on the appropriate task description(s) (e.g. control of aircraft, management of air battlespace)</td>
</tr>
</tbody>
</table>

Table 18. Example Training Environment Option Specification

103. **Methods & Media Options (through Training Environment Rationalisation) – 1.6.3B.** Rationalising training environments, or grouping together training tasks, can reduce the specification of training environments. Although in theory each task should be conducted in the optimum training environment, in practice this is likely to prove costly and impractical; therefore, rationalisation is necessary, typically resulting in groupings of training tasks against potential environments. In undertaking this process, both the Defence Joint Collective Training and Exercising Governance Structure\(^\text{96}\) and the Defence Exercise Programme should be consulted to identify where exercises or other events may be available to support training. Analysis should also consider what training environments already exist (including those for individual training) and whether they can be extended or should be assumed to form part of the training solution.

104. **Summary of Team/Collective TNA outputs.** Table 19 provides a summary of the key outputs of each stage of the Team/Collective TNA process. Not all outputs will be appropriate, depending on the specific context. A graphic summary of how the Team/Collective TNA process fits together is given at Annex F.\(^\text{97}\)

\(^{95}\) Where TCTA is being undertaken in support of acquisition or can influence capability requirements; see [http://aof.uwh.dilf.r.mil.uk/](http://aof.uwh.dilf.r.mil.uk/)

\(^{96}\) The requirements should be sketched out such that they can be added to if the option is selected.

\(^{97}\) See Defence Direction for Collective Training in Part 1.

\(^{97}\) Note that it may be appropriate to conduct a shortened Team/Collective TNA to provide products analogous to an Individual TNA or a Training Resource Estimate.
## Table 19. Summary of Team/Collective TNA Outputs

### TNA: STAGE 2 – TRAINING NEEDS REPORT (INDIVIDUAL AND COLLECTIVE)

105. **Training Needs Report (informing the SOTR – 1.7).** The Training Needs Report specifies the training requirement and recommends a training solution through the evaluation of options. It should include the resources required to design and support the training. Training Needs Reports should collate all the information from the scoping exercise and analyses stages, adding an Implementation Plan and TNE strategy. It should also include a description of the TNA methodology in terms of the data gathering and analysis techniques and clearly reference the data sources consulted. The TNA (either Individual, or Team/Collective, or both) can then be written up as a Training Needs Report that provides or supports detailed user and system requirements. Training Needs Reports should include:

a. Identification of the Performance requirement: a Role/Team PS for each Role holder/team, as identified in the RA/TCTA.

b. Identification of the training requirement: the results of the TGA/Teamwork Error Analysis.

c. A Role/Team PS for the Role(s) and team(s) affected by the recommended training solution with recommended training categories and supportive notes to amplify specific requirements to be included as appropriate to assist designers with the production of the FTS (during Element 2, Design, 2.2).

d. Implementation plan, including where responsibilities lie (e.g. conversion training, date of new legislation and/or policy change, and design). At this stage the draft TOs/CTOs endorsed by the TNASG should be available and expressed as Performance, Conditions and Standards to enable implementation by the design team. Any recommendation regarding estimation of resources, timings and assessments should be clearly referenced to aid the design team.

e. Input to inform or refine the SOTR (for formal endorsement), to focus and direct the design stages.

f. TNE strategy.
The TNASG endorsed training solution, resulting from the CBA (1.7.1) and final selection using the Options Evaluation (1.7.2). Fidelity requirements and associated risks, assumptions, constraints should be included in the Report.

106. CBA – 1.7.1. In accordance with Defence and HM Treasury guidelines, an examination of the broad order costs of various options to recommend the most cost-effective training solution must be undertaken. It is important that costing and investment appraisal are undertaken strictly in accordance with the current Defence and Service or Joint Command policies and conventions. If training specialists become involved with costing or investment appraisal, they should obtain current advice from the TNASG or other authoritative body. CBA activity does not start at this stage of the TNA but the result of it is included in the Training Needs Report hence its inclusion here. Like many aspects of DSAT, CBA is an iterative process with initial activity commencing much earlier in the TNA process, as appropriate. The CBA will likely be further refined during the Method & Media selection process in Element 2 (Design, Stage 2, 2.5). An estimate of the financial risks and/or opportunities associated with each training solution option should be undertaken. Training staffs are unlikely to be qualified to conduct financial risk analysis at anything other than a superficial level. However, these analyses will be a significant factor in selecting training solution options.

107. Options Evaluation – 1.7.2. The final activity of the TNA is to decide on training options. To evaluate the merits of the training locations and/or environments (determined at 1.6.2A/B) one of them should be selected as a baseline option. The selection of a baseline will depend on the context, which then permits the construction of a table to display the relative merits of each option against the baseline. Options can be assessed via several criteria:

a. The extent to which the option meets the requirements.

b. Through-life cost, including the costs of maintenance, trainers and integration with existing training locations/environments.

c. Implementation time, which may prove important to meet an operational need or a RFTD (1.1.1).

d. Trainer load, or any consideration of the availability and competence of trainers to support training.

e. An assessment of the risk associated with the options.

f. Flexibility, or the ease with which the new training can be integrated with existing and potential future training, as appropriate.

108. It will typically be appropriate for the options evaluation to be undertaken in consultation with SMEs before presentation to the TNASG for endorsement. Table 20 provides an example format:

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98 Trainers should therefore seek specialist advice and support from Defence, or, for industry, from specialists in the field.

99 Examples of best practice training options to enhance the acquisition and retention of Knowledge and Skills are covered in the CRAT. Details are at Part 2, Chapter 5, Section 5.1.

100 It may be necessary to break down costs into greater detail to conduct evaluation.

101 This may include safety considerations or it may be appropriate to assess safety separately.
109. **Recommended training solution.** As a result of this iterative process of analysis, the user should now be in a position to make an informed and fully justifiable recommendation as to the most cost-effective and, above all, safe training solution that fully meets the training requirement. The recommendation is then endorsed at the TNASG. If it is not, the TNA process should be repeated until a suitable training solution is generated (this is very unlikely as the process is designed to deliver the optimal solution, but endorsement cannot be assumed). Element 2 (Design) cannot commence until the training solution has been endorsed.

110. **Risk/assumption management – 5.3.** On a continuous basis, the risks and assumptions recorded on the risk and assumption registers established during Element 1 (TNA Stage 1, 1.2.4), should be updated. Any new and emerging risks/assumptions to both the recommended training solution and the TNA process should be added.

   a. **Risks.** Where risks are identified, a plan for mitigation should be enacted and resources allocated, where necessary. It may be the risks need to be transferred to the appropriate governance body for authority to treat through mitigation, tolerate (if mitigation is not feasible), or transfer (if the risk needs to be elevated to a higher level). Risks should then be fed back into the DSAT process in order to ensure that activities are either repeated or conducted bearing the risks in mind.

   b. **Assumptions.** As the DSAT process progresses there may be a need to make assumptions, where accurate or up-to-date information is unavailable, in order to continue the process without delay. As information becomes available assumptions can be removed and replaced with fact. The appropriate governance body should regularly review and endorse the assumptions and DSAT processes should be repeated if necessary.

111. **Pipeline management – 5.4.** The training pipeline should be closely and intelligently managed to ensure that sufficient personnel of the correct branches and/or trades enter training on the Untrained Strength (UTS), and subsequently single Services, as GTS in order to meet the manpower requirement of each Service. Pipeline management should be as efficient as possible to ensure that trainees move without significant delay from one phase of training to the next. Holding between training activities should be kept to a minimum as delays adversely affect the individual, and are cost and resource inefficient. Delays also have a negative impact on Defence effect.

112. Good pipeline management will provide a reality check on the Manpower Plan. For example, when there are specific recruitment challenges in certain trades, pipeline managers will flag this up and, as a result, more extensions of service could be offered to mitigate this. Good pipeline management requires continual liaison with the TDA and Training Provider if reductions or increases in personnel are likely to affect the SOTR and/or the SOTT. Early identification of any changes is critical to give the TDA/Training Provider the best chance to re-orientate and, whilst this should be managed through the CEB, pipeline managers are often best placed to give the Training Provider an advance heads-up of any likely changes.

113. **SOTR – 5.5.** The SOTR identifies the trained output required by the employing Service Command (or Customer), by year, for a period of 4 Training Years. It is produced by the Service
Command SOTR Co-ordination Organisation\textsuperscript{102}, who own and develop it in conjunction with the TRAs (including Lead TRAs) the relevant TDAs, finance and plans staff and the sS Manning Authorities. It may also require input from recruiting staff and DE&S, if appropriate. Given the increasingly tri-Service and Defence nature of training, the SOTR should be developed using the standardised format at Annex G. The aim of the process is to develop an accurate SOTR endorsed\textsuperscript{103} before the commencement of the TY\textsuperscript{104}. It is important that the Year 1 figure agreed at the end of the SOTR process is accurate. It is recognised that the figures for Years 2, 3 and 4 will need differing levels of refinement as the SOTR process progresses year-on-year. Although not an exhaustive list, the following issues may impact on the SOTR:

\begin{itemize}
\item[a.] New equipment/equipment upgrades.
\item[b.] Changes to policy and legislation.
\item[c.] Impact of financial measures.
\item[d.] Changing Defence priorities.
\item[e.] Results of ExVal.
\item[f.] Changes to infrastructure.
\item[g.] Changes to manning structures.
\item[h.] Known difficulties of recruiting in pinch point trades/branches.
\item[i.] Historic data on take up and pass rates of courses.
\end{itemize}

114. In the case of Defence or Joint training, the SOTR is derived from the various Service or Joint Command requirements (both military and MoD Civil Service). In order to build up meaningful data on the accuracy and validity of SOTR figures, a comparison of the relevant forecast requirement (SOTR) versus outturn is to be conducted at the end of each TY, by the Training Provider. The results of these comparisons should be reported at the CEB, with records maintained to establish, analyse and report trends. The production of a SOTR and its endorsement at the appropriate governance body (such as the CEB) is a key function of the governance process that forms part of the MTS, ensuring that the Defence mandated QMS is being achieved.

**TNA: STAGE 3 – EVALUATION**

**TNE**

113. **TNE – 1.8.** The TNE is Stage 3 of the TNA and is integral to its success. However, as it is most likely to be conducted at Element 4 (Assurance), appropriate Guidance is provided as part of that Element later in this Chapter.

Annexes:

A. KSA Analysis Example.
B. Suggested Format for the Recording of Outputs to Inform Refresher Training Requirements.

\textsuperscript{102} Each Service that generates a training requirement should have a single organisation that is responsible for capturing and co-ordinating the entirety of that requirement.

\textsuperscript{103} Before the SOTR can be endorsed there must be sufficient funding or options submitted to deliver that SOTR. This is an absolute requirement before the SOTR can be accepted and endorsed by the CEB Chair.

\textsuperscript{104} In some instances contractual constraints will dictate a specific period, prior to the commencement of the TY, when an endorsed SOTR must be available.
C. Role/Team Performance Statement.
D. Competence/Competency Frameworks.
E. Fidelity Analysis Example.
G. Statement of Trained Requirement (SOTR).
## INITIAL KSA ANALYSIS EXAMPLE

This document can be used in conjunction with the Role Analysis to inform the total Role Performance. This high level KSA Analysis, when undertaken, should be delivered to the TRA with the Role PS.

<table>
<thead>
<tr>
<th>ROLE TITLE</th>
<th>ID NUMBER</th>
<th>ROLE PS NUMBER</th>
<th>ISSUE STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivational Outreach Team (MOT)</td>
<td></td>
<td>123/01</td>
<td>V1-00</td>
</tr>
<tr>
<td>Inspectorate of Recruiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Performance (number)

<table>
<thead>
<tr>
<th>TASK</th>
<th>Underpinning Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertise and market the RAF</td>
<td>Knowledge of the RAF trades, branches, entry procedures and entry requirements</td>
<td>Ability to communicate effectively with members of the public; adjusting communication style depending on audience.</td>
<td>With due regard for AP1 Ethos, Core Values and Standards</td>
<td>With positivity, enthusiasm and tact.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ROLE TITLE</th>
<th>ID NUMBER</th>
<th>ROLE PS NUMBER</th>
<th>ISSUE STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TASK</th>
<th>Underpinning Knowledge</th>
<th>Skills</th>
<th>Attitudes</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conduct immediate aircrew actions</td>
<td>Knowledge of SE, SSLR and MSLR (as necessary), content of survival kits and winchman procedure.</td>
<td>Ability to apply sea survival procedures to reduce risk of exposure and drowning whilst awaiting rescue from SAR helicopter or boat. If SAR helicopter, there is a need to apply suitable procedures to assist a winchman</td>
<td>With due regard to all safety and survival procedures within time constraints.</td>
<td>Determination, confidence of own and team and ability.</td>
</tr>
</tbody>
</table>
SUGGESTED FORMAT FOR THE RECORDING OF OUTPUTS TO INFORM REFRESHER TRAINING REQUIREMENTS

1. In order to develop an optimised training system it is important to consider both how Knowledge, Skills and Attitudes are acquired and how they are retained over time. Understanding the rate at which different types of Knowledge and Skills fade can inform training design and the setting of refresher training intervals. In order to conduct refresher training interval analysis, it can be useful to use a more detailed breakdown of Knowledge and Skills than that discussed in Section 1.3.4A – Initial Knowledge, Skills, Attitudes (KSA) Analysis. Literature from psychology and cognitive science suggests that Knowledge and Skills can be broken down as shown in Table 1.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Task Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Psychomotor Skills</td>
<td>The ability to perform (repeated) motor actions that do not have distinct beginnings or endings.</td>
<td>Flying aircraft, driving, soldering and welding.</td>
</tr>
<tr>
<td>Discrete Psychomotor</td>
<td>The ability to conduct physical tasks with discrete beginnings and endings. These physical tasks have a procedural element.</td>
<td>Weapon handling e.g. assembling and dis-assembling a rifle; exchange steering box assembly.</td>
</tr>
<tr>
<td>Explicit Knowledge</td>
<td>Explicit knowledge required to conduct a task such as facts, principles, concepts, and theories.</td>
<td>Quality and engineering hygiene measures; safety regulations; knowledge of how to use hand tools and testing equipment.</td>
</tr>
<tr>
<td>Decision Making</td>
<td>Application of cognitive processes such as judgement, problem solving, reasoning and analysis in order for an individual to arrive at a decision.</td>
<td>Fault diagnosis</td>
</tr>
<tr>
<td>Procedural Skills</td>
<td>Ability to remember a sequence of steps and their order so as to execute a task. Application of this type of skill relies on the working memory capacity of an individual, and hence the procedural aspect of the execution of the task is inherently cognitive in nature. Motor or physical elements are minimal.</td>
<td>Fault finding; Navigating through menus and submenus on a digital Battlefield Management System to execute a command.</td>
</tr>
</tbody>
</table>

Table 1. Knowledge and Skills Domains

2. Without practice, continuous psychomotor skills and explicit knowledge are retained for the longest; discrete psychomotor and decision making skills have moderate retention over time and procedural skills fade the most quickly. The retention of Knowledge and Skills over time is moderated, or influenced by how often the task is performed or practised. Table 2 shows the impact of task performance frequency on the retention...
of the different types of Knowledge and Skills. For example, if discrete psychomotor skills are performed very frequently then the retention level is High. However, if performed infrequently then the retention level is reduced to moderate.

<table>
<thead>
<tr>
<th>Type</th>
<th>Frequency of task performance</th>
<th>Retention level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous Psychomotor skills</td>
<td>Very Frequent</td>
<td>High</td>
</tr>
<tr>
<td>Explicit Knowledge</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Moderately Frequent</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Infrequent</td>
<td>High</td>
</tr>
<tr>
<td>Discrete psychomotor skills</td>
<td>Very Frequent</td>
<td>High</td>
</tr>
<tr>
<td>Decision- making skills</td>
<td></td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Moderately Frequent</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Infrequent</td>
<td>Low</td>
</tr>
<tr>
<td>Procedural skills</td>
<td>Very Frequent</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Moderately Frequent</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Infrequent</td>
<td>Low</td>
</tr>
</tbody>
</table>

Table 2. Effect of Task Frequency on Knowledge/Skill Retention

3. The retention level of the Knowledge and Skills for a given task should be taken into account when setting refresher training intervals. Further guidance on refresher training analysis is available from the Competence Retention Analysis Technique (CRAT) User Guide. It is important to note that a number of role-related factors (in addition to frequency of task performance) can also influence Knowledge and Skill fade, e.g. designing equipment, job aids and operating procedures in accordance with good practice (which includes built-in user feedback for equipment and interfaces, logical steps within procedures).

4. Training methods, media and assessment regimes which ensure the effective acquisition of knowledge and skills in the first place also help to reduce skill fade. Table 3 provides a summary of training ‘strategies’ which can be used to improve knowledge and skill retention. The first column indicates which types of knowledge and skill the strategy is relevant to.

---

<table>
<thead>
<tr>
<th>Training Strategies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Job aids.</strong> (Relevant to all knowledge and skill types)</td>
<td>Provision of a job aid. Job aids can reduce operator memory load and the likelihood of skill fade. Their influence depends on their quality and practicality.</td>
</tr>
<tr>
<td><strong>Feedback.</strong> (Relevant to all knowledge and skill types)</td>
<td>Provision of quality feedback. Detailed feedback stemming from a learner’s performance, combined with a chance to improve performance, is important to skills acquisition. Reducing the frequency of feedback during training promotes long term retention and skill transfer.</td>
</tr>
<tr>
<td><strong>Communicate utility of training.</strong> (Relevant to all knowledge and skill types)</td>
<td>Training is perceived as having high utility when a link is perceived between required performance and outcomes valued by trainees. Those who perceive training as valuable are more likely to apply newly acquired knowledge, skills and behaviours to the job than trainees who do not.</td>
</tr>
<tr>
<td><strong>Assessment enhanced learning.</strong> (Relevant to all knowledge and skill types)</td>
<td>Assessment enhances retention, whereas continuous training without assessment has a limited effect on retention. When used frequently during initial training, assessment of performance enhances skill acquisition and retention. Assessment combined with the provision of feedback on performance assists learning and retention.</td>
</tr>
<tr>
<td><strong>Provision of recognition cues.</strong> (Procedural skill type)</td>
<td>Providing recognition cues to learners has been shown to have a beneficial effect on learning and retention, particularly in the retrieval of aspects of long, complex or procedural tasks. For example, recognition cues can be used to ‘prompt’ a user as to what the next step should be in a task performed on a digital Battlefield Information Management System (BIMS).</td>
</tr>
<tr>
<td><strong>Part-task training.</strong> (e.g. continuous and discrete psychomotor and procedural skill types)</td>
<td>Tasks can be decomposed into components e.g. subtasks. Part-task training involves trainees learning and practising these task components in isolation. Once mastered the whole task should be practised. This strategy is particularly beneficial for very complex tasks with cognitive (e.g. procedural) and psychomotor components.</td>
</tr>
<tr>
<td><strong>Appropriate simulation fidelity.</strong> (e.g. continuous and discrete psychomotor, procedural, and decision making skill types)</td>
<td>When the acquisition of cognitive skills (procedural/decision making) is required, it is the psychological fidelity of a task and not its physical fidelity that drives skill acquisition and consolidation. However, where cognitive and psychomotor skills are combined high fidelity simulation helps the consolidation of skills.</td>
</tr>
<tr>
<td><strong>Procedural instructions.</strong> (procedural skill type)</td>
<td>Structure instructions in a way that will induce learners to expend the cognitive effort needed for effective learning. Inclusion of more general steps helps learning transfer; they force the learner to try to understand the system or domain and engage in effortful cognitive strategies. Inclusion of examples with general instructions supports initial performance, because it helps the learner understand what they needed to do.</td>
</tr>
<tr>
<td>Training Strategies</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Refresher Assessment</strong></td>
<td>Assessment of core knowledge, skills and behaviours reduces the burden on refresher training. Training is only required for those task components where performance is below the required level of proficiency. This can exploit advances in new training technologies for the assessment of core knowledge, skills and behaviours at any point in time (individual and collective). Decision-making skills can be assessed using novel scenarios.</td>
</tr>
<tr>
<td>(e.g. discrete psychomotor, procedural and decision making skill type)</td>
<td></td>
</tr>
<tr>
<td><strong>Standardised and recorded assessment</strong></td>
<td>Recording trainee performance helps trainers in making objective assessments of learners’ skill acquisition and in targeting the provision of feedback.</td>
</tr>
<tr>
<td>(Relevant to all knowledge and skill types)</td>
<td></td>
</tr>
<tr>
<td><strong>Match between training and operational environment</strong></td>
<td>Retention is enhanced if the training context and situational cues are similar to those which are experienced in the operational environment. Individuals should be exposed to as many different situations and content based scenarios as possible to promote knowledge and skill transfer.</td>
</tr>
<tr>
<td>(Relevant to all knowledge and skill types)</td>
<td></td>
</tr>
<tr>
<td><strong>Overlearning (overtraining)</strong></td>
<td>Overlearning refers to the continuation of practising a task after error free performance has been achieved. It can enhance speed of performance after accuracy has reached a ceiling. Effective for both psychomotor and cognitive skills, although any benefits provided are stronger for tasks with a cognitive element (e.g. memory for procedures). Overlearning can benefit, e.g. the acquisition and retention of safety critical drills which can be proceduralised. It has little effect on long-term retention.</td>
</tr>
<tr>
<td>(e.g. discrete and continuous psychomotor, and procedural skill types)</td>
<td></td>
</tr>
<tr>
<td><strong>Variable practice training</strong></td>
<td>Varying the practice of knowledge and different skills so that items are intermixed across the training programme rather than repeated in concentrated blocks; this enhances long term retention after extended periods of no practice. Acquisition can take less total time and the retention can be 50% better. The optimal inter study interval in distributed training protocols lies between 10-30% of the retention interval with longer inter-study intervals enhancing retention more than shorter inter-study interval. A longer-than-optimal spacing is better than shorter-than-optimal spacing.</td>
</tr>
<tr>
<td>(Relevant to all knowledge and skill types)</td>
<td></td>
</tr>
</tbody>
</table>
### Training Strategies to Improve Retention of Knowledge and Skills

<table>
<thead>
<tr>
<th>Training Strategies</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active learning</strong>&lt;br&gt;(procedural and decision making skill types)</td>
<td>Active learning can be more effective than guided learning. The instructor creates a training environment in which the trainee can: i) learn to organise new information into existing mental frameworks which hold prior knowledge in order to generate new knowledge about the context; and ii) practise the application of newly acquired knowledge and skills. Knowledge, skills and behaviours attained at a higher (cognitive) level are retained for longer. An example is error management training where trainees are given the opportunity to make errors and learn from them. Trainers should do the following: i) Present trainees with a series of practice examples illustrating the range of different conditions that they may subsequently encounter in the field including any unusual situations; and ii) Encourage trainees to think about these situations, make errors and learn from them. Guided training can be blended with active learning for complex tasks by directing trainees in how to explore training resources and make errors so that it is clear that they are an expected aspect of training. This ensures that trainees experience the same set of errors and do not feel responsible for them.</td>
</tr>
<tr>
<td><strong>Task-oriented training</strong>&lt;br&gt;(e.g. knowledge and decision making skill types)</td>
<td>Use the context of a given task to train the knowledge, cognitive skills and behaviours required instead of teaching material at an abstract level without reference to how it will be applied on the job. This strategy optimises the level of original learning and retention.</td>
</tr>
<tr>
<td><strong>Standard training scenario</strong>&lt;br&gt;(Relevant to all knowledge and skill types)</td>
<td>Use of standard scenarios that are progressive in difficulty would allow students to build on knowledge and skills already gained. Standardisation also enables comparisons to be made between students and training facilities as all trainees would have a standard background.</td>
</tr>
</tbody>
</table>

Table 3. Training Strategies to Improve Retention of Knowledge and Skills
## ROLE/TEAM PERFORMANCE STATEMENT (ROLE/TEAM PS)

<table>
<thead>
<tr>
<th>OFFICIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROLE TITLE(S):</td>
</tr>
<tr>
<td>DUTY TITLE:</td>
</tr>
<tr>
<td>TRA:</td>
</tr>
<tr>
<td>JOB NUMBER (S):</td>
</tr>
<tr>
<td>DUTY NUMBER:</td>
</tr>
<tr>
<td>OPS REFERENCE:</td>
</tr>
<tr>
<td>ISSUE STATUS:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task/ Sub Task Number</th>
<th>Performance</th>
<th>Condition</th>
<th>Standard</th>
<th>Training Category</th>
<th>Notes</th>
</tr>
</thead>
</table>
COMPETENCE / COMPETENCY FRAMEWORKS

1. **Competency & Competence.** The human element of operational capability is a complex area to analyse. It is, however, important to understand both the people and training aspects, as different methodologies of analysis fit different needs, and, within the Defence context, they are sometimes confused. The relationship between competency, competence and performance needs to be understood in a consistent manner:

   a. **Competency** (plural: competencies) is the underlying characteristic(s) of an individual which results in effective and/or superior performance within a Role. OJAR/SJAR is an example of an organisational level competency framework that is common to all Service personnel. Professional competency frameworks can also be used in order to provide guidance to defined professional groups, such as the Royal Navy’s Command Competency Framework, where there is a need for longer term individual professional development and/or selection.

   b. **Competence** (plural: competences) is the measured ability of an individual to consistently perform a particular occupational skill or range of skills to a required Standard, under prescribed Conditions. The Role PS serves as the statement of the Competence performance required for Defence under the DSAT model, articulating the skill orientated requirements of a Role.

2. Although linguistically similar, competence and competency are distinct concepts. The essential distinction is between aspects of the role at which the individual is competent (the competence), and aspects of the individual that enable them to be competent (the competency). The relationship between competence, competency and performance is illustrated in Figure 1.

![Figure 1](source: Young, M. (2005). 'A model linking competency, competence and performance'. Competency and Emotional Intelligence. Summer 2005.)

3. Figure 1 illustrates that both competency and competence are essential enablers of individual performance; they are not mutually exclusive. Selection, development (including education) and training have key roles in growing necessary competencies and competences.
Therefore, effective human capability development should not neglect either; instead, consideration of both will result in optimal requirement setting and solution development. Competence development (in the form of a Role PS and associated training solutions) is covered under the DSAT training analysis process contained within this policy. Furthermore, DSAT derived training solutions may either require some competencies as a pre-requisite or be developed during a training solution (often at the EO level).

4. **Competence Frameworks.** Competence frameworks are not the sole preserve of Defence and many external bodies and organisations utilise and develop them. Where an external awarding body has already developed an appropriate competence framework (usually in the form of job-related standards/qualifications grouped under competence areas) it is acceptable within the DSAT process to utilise this, as appropriate, rather than developing bespoke a Role/Team PS from scratch. This has the added benefit of easing the accreditation process and aiding skills transfer from both within Defence and externally (particularly during transition to civilian life). Furthermore, where similar competences are employed over a wide range of roles across Defence (e.g. more than one TLB), it may be appropriate to develop a competence framework for particular professions/trades in Defence. The use of an established competence framework does not absolve the analyst from capturing both the requirement and solution within the TrAD along with the necessary documentation; ensuring it is endorsed by the CEB. In particular, where a competence framework is used, CEBs should assure themselves that the solution does not greatly exceed the requirements of the role just in order to meet desirable external accreditation or to save resource expenditure on the analysis phase, which may be detrimental to the final training solution.

5. **Competency Frameworks.** Similarly, competency frameworks are also used outside of Defence as they are recognised to have applications across a whole range of developmental activities, including training. Competency frameworks are now seen as an essential vehicle for achieving organisational performance through the development of ‘human capital’ by reviewing individual capability and potential. Essentially, competency frameworks are a human resource tool and are generally used at organisational or functional level and can be used in selection, performance development and training. Competency frameworks are used to document required organisational behaviours, under grouped competency areas; such as Leadership, Communication, Problem-solving and Team-working. Where competency frameworks exist, it is acceptable to use them within DSAT, if the behavioural descriptors are appropriate within the context of Defence.
FIDELITY ANALYSIS EXAMPLE

1. The following Fidelity Analysis is an example only with a suggested format that users may wish to replicate.

<table>
<thead>
<tr>
<th>Training Task</th>
<th>Sub-task (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.3 Use FCC Controls</td>
<td>5.3.3 Manually guides the weapon using the FCC controls and light pen to input guidance data for the weapon</td>
</tr>
</tbody>
</table>

**Physical Fidelity Requirements**

<table>
<thead>
<tr>
<th>Sub Category</th>
<th>Fidelity Factor</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layout</td>
<td>2</td>
<td>Controls and switches must be in the correct position in relation to the operators position</td>
</tr>
<tr>
<td>Look</td>
<td>1</td>
<td>Actual feel of controls is not required for training</td>
</tr>
<tr>
<td>Feel</td>
<td>1</td>
<td>Appearance not important to training but spatial representation of the console is required</td>
</tr>
</tbody>
</table>

**Functional Fidelity Requirements**

<table>
<thead>
<tr>
<th>Sub Category</th>
<th>Fidelity Factor</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>3</td>
<td>Essential that data displayed is an accurate representation to provide the correct cues to the operator</td>
</tr>
<tr>
<td>Content</td>
<td>3</td>
<td>Essential that the content of the data is accurate to ensure correct interpretation of the data</td>
</tr>
<tr>
<td>Response</td>
<td>3</td>
<td>Essential that response is exact to ensure correct identification of faults and interpretation of data</td>
</tr>
</tbody>
</table>

**Environmental Fidelity Requirements**

<table>
<thead>
<tr>
<th>Sub Category</th>
<th>Fidelity Factor</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound</td>
<td>1</td>
<td>Typical control room sounds would enhance realism</td>
</tr>
<tr>
<td>Motion</td>
<td>0</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Ambience</td>
<td>0</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Geographic Areas</td>
<td>0</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

**Tactical/Cultural Fidelity Requirements**

<table>
<thead>
<tr>
<th>Sub Category</th>
<th>Fidelity Factor</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threats</td>
<td>3</td>
<td>Essential that all threats be realistically portrayed</td>
</tr>
<tr>
<td>Allies/Neutrals</td>
<td>3</td>
<td>Essential that all Allies/Neutrals be realistically portrayed</td>
</tr>
<tr>
<td>Conflict Character/Location</td>
<td>1</td>
<td>Actual conflict character and location not important</td>
</tr>
<tr>
<td>Team Interactions</td>
<td>2</td>
<td>Interaction with team through radio communications only</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factor</th>
<th>Indicator</th>
<th>Definition</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>None</td>
<td>Not applicable</td>
<td>Has no impact on training</td>
</tr>
<tr>
<td>1</td>
<td>Low</td>
<td>Replication not important</td>
<td>Little impact would be made on training except to add realism</td>
</tr>
<tr>
<td>2</td>
<td>Medium</td>
<td>Replication moderately important</td>
<td>Significant impact would be made on the training. The task contains elements which requires exact replication</td>
</tr>
<tr>
<td>3</td>
<td>High</td>
<td>Exact replication important</td>
<td>Has a significant impact and is essential to training</td>
</tr>
</tbody>
</table>
TEAM/COLLECTIVE TRAINING NEEDS ANALYSIS PROCESS SUMMARY

Scoping exercise

Task analysis

Overlay analysis

Environment analysis

Cost Benefit Analysis

Option evaluation table

Option specification

LVC

SRD

URD

JTL/MTL

Collective Training Objectives

Role definitions

Scenario descriptions

Task description tables

Error analysis

Team Performance Statement

DIF

KSA

ASStrat

Trainer tasks

Deployed training requirements

Training scenarios

Collective Training Objectives

Role Performance Statement

JTL/MTL

Hierarchical task analysis

Training throughput

Training components

Internal interactions

External interactions

Doctrine and context

Scenario descriptions

Organisational structure

Pan-DLoD

Constraints table

MDAL

Risk/Assumption Registers

Continually updated

Method & Media (Rationalise training environment)

Fidelity requirements

Option identification

Comparison with existing training

Assessment and recommendation

Training Needs Report

Doctrine and context

Organisational structure

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KSA

ASStrat

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Continually updated

Method & Media (Rationalise training environment)

Fidelity requirements

Option identification

Comparison with existing training

Assessment and recommendation

Training Needs Report
# STATEMENT OF TRAINED REQUIREMENT (SOTR)

**OUTPUT SOTR Figures Spreadsheet**

<table>
<thead>
<tr>
<th>Item</th>
<th>Data Required (Column Heading)</th>
<th>Service (Sub Heading)</th>
<th>Guidance Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Training activity Code/Number</td>
<td></td>
<td>Enter the course code/number in accordance with JPA competences/TAFMIS/DLMC rules</td>
</tr>
<tr>
<td>2</td>
<td>Training activity Title</td>
<td></td>
<td>Enter the title. To take account of new equipment programmes where, at this stage, the training requirement has not been fully articulated it may be appropriate to insert a notional requirement in years 3 or 4 of the SOTR. This figure can then be refined in subsequent SOTRs</td>
</tr>
<tr>
<td>3</td>
<td>Training activity Type</td>
<td></td>
<td>Enter type of Training, for example: Phase 1 Training Phase 2 Training Phase 3 Training IDT (International Defence Training) Tier 1 Collective Training Tier 2 Collective Training Tier 2(+) Collective Training Tier 3 Collective Training Tier 4 Collective Training</td>
</tr>
<tr>
<td>4</td>
<td>Training activity Length</td>
<td></td>
<td>Total length in whole days, including time for administrative procedures at joining and leaving and any other time spent at other sites or on exercise/general military training within the timeframe. This is measured in training days and excludes any stand-downs and leave periods</td>
</tr>
<tr>
<td>5</td>
<td>Minimum Number of Training activity iterations</td>
<td></td>
<td>Minimum number of required training iterations in the TY.</td>
</tr>
<tr>
<td>6</td>
<td>OUTPUT SOTR Figure for Training Year (TY)</td>
<td>RN ARMY RAF MoD CS IDT JFC Other</td>
<td>The number of trainees required to successfully complete training in the TY. For SC SOTRs, the columns for the other 3 Services will be zero</td>
</tr>
<tr>
<td>7</td>
<td>Total Output SOTR in TY</td>
<td>Sum of entries at Item 6</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Total Training Days for TY</td>
<td>Derived from Item 4 (Length) multiplied by Item 7 (Total Output)</td>
<td></td>
</tr>
</tbody>
</table>
1.3 Element 2: Design

Policy Sponsor: TESRR, CDP^106

This Section of the Guidance outlines the Defence approach that allows training specialists to adopt a structured, methodical approach to the design of the training activity.

It sets out the 3 Stages of the design process, which may be used in order to meet the selected training solution, set out in the Training Needs Report. These design stages inform subsequent Elements and form part of the overall Training System.

The DSAT process

1. This Section provides Guidance on the processes and outputs associated with the design of the training activity (the 3-stage design process), which is Element 2 of the DSAT process, as illustrated in Figure 1.

Figure 1. The DSAT Process

Training design overview

Figure 2. DSAT Element 2 Inventory of Activities

^106 Training, Education, Skills, Recruitment and Resettlement, part of Chief of Defence People, 6th Floor, MoD Main Building.
2. Training design is the process that derives achievable TOs/CTOs from the outputs of the TNA, as agreed between the TRA, TDA and the Training Provider. It then establishes the assessment, Methods & Media and LSpec. The 3 stages of E 2 (shown in Figure 2) are:

a. **Design Stage 1.**

   (1) **TOs/CTOs – 2.1.** A key activity is to determine the TOs/CTOs (based upon the Performance, Condition, Standards criterion set out in the Role/Team PS), based upon the draft TOs/CTOs produced during Element 1 (TNA Stage 2, 1.5A/B).

   (2) **FTS – 2.2.** The FTS details the totality of the training that must be achieved to meet the requirements articulated in the Role/Team PS. The FTS is made up of a TPS, a WTS, and a RTGS. The TPS details the TOs/CTOs that are managed and/or delivered by the TDA. The WTS details the TOs/CTOs that are managed and/or delivered by the employing unit. The RTGS details elements of the Role/Team PS that have not been allocated to any training activity (the gap).

   (3) **EOs and KLPs – 2.3.** Having completed the TPS, and to aid development of the Learning Scalar and LSpec, EOs and KLPs are produced.

b. **Design Stage 2.**

   (1) **AStrat – 2.4.** The AStrat articulates the summative and formative AStrat for the 'how', 'when' and 'in what manner' training is to be assessed. From this an ASpec is generated.

   (2) **Selection of Methods & Media – 2.5.** This activity ensures the most appropriate, effective and efficient selection of training Methods & Media, including any constraints that may limit options, and draws on the Methods & Media options work conducted during Element 1 (TNA Stage 2, 1.6.3A/B).

c. **Design Stage 3.**

   (1) **Learning Scalar and LSpecs – 2.6.** Design Stage 3 structures the TOs/CTOs and their dependent EOs and KLPs in the Learning Scalar, and brings together the collective outputs of analysis and design in the production of LSpecs. LSpecs enable the delivery of lesson or collective training event plans for all training activities (including for workplace training). This is the content required for the Training Provider to deliver lessons/events.

   (2) **Collective training trainer tasks – 2.7.** Design Stage 3 also ensures that event-specific KSA that trainers require to deliver training during widely variable collective training events are stated.

3. **Responsibilities.** Both the TRA and TDA are ultimately responsible to the CEB and Customer for the work conducted during the Design Element:

   a. It is expected that the TRA will take the lead on Design Stage 1\(^{107}\) as well as the MTS-related DSAT activities, processes and outputs, which are required to be completed during Element 2. The TRA may wish to delegate specific tasks but will retain overall responsibility for them. The TRA is likely to ensure that those activities that it deems critical to the development of the Training System are conducted; most notably a review of the work completed in Element 1 in the form of a Trained Output Requirement Review.

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\(^{107}\) Less the production of EOs and KLPs which is normally the responsibility of the TDA.
b. The TDA is expected to take the lead on Design Stages 2 and 3 activities, processes and outputs, which are required to be completed during Element 2. The TDA may wish to delegate specific tasks but will retain overall responsibility for them.

4. **JPA Competences and Qualifications.** Training Designers should refer to Chapter 1.4 Delivery, Paragraph 36 in order to begin the process of establishing a competency/qualification for the training.

**MTS**

4. **Trained Output Requirement Review – 5.6.** Once the Role/Team PS has been created and TOs/CTOs drafted, it is useful to conduct a review. A Trained Output Requirement Review takes place to ensure that, based on the Role/Team PS and the draft TOs/CTOs, the training requirement would still be met. This review should be carried out periodically as directed by the appropriate governance body (such as the CEB), making this a recurring, rather than a single activity to ensure that the MTS meets the Defence mandated QMS. Records created as a result of the review should be maintained for audit purposes. The review should ensure that:

   a. Defence Performance requirements are defined in the Role/Team PS;

   b. Changes to the Defence Performance requirements have been incorporated into the agreed training requirements;

   c. The endorsed training solution meets the agreed training requirements, which have been derived from the TNA.

   d. A SOTR is produced and endorsed to ensure that the Customer requirements are understood.

   e. If the training requirement is changed, the appropriate governance body should approve the change and ensure that the DSAT processes affected are either repeated or the outputs amended to accurately capture the change going forward.

**DESIGN STAGE 1**

**Individual/Collective TOs**

5. **TOs/CTOs – 2.1.** TOs/CTOs ensure that the training activity has a definite purpose such that the Defence need is met. They help ensure that the associated trainers, support staff and trainees (in an individual or team/collective environment) have a clear understanding of what the trainees are required to learn and to be able to do at the end of the lesson/learning event. TOs/CTOs form the basis of the detailed design of each of the training lessons or collective training events as well as identification of appropriate training resources. They may also be used in support of the award of civilian accreditation. Therefore, the development and maintenance of accurate TOs/CTOs is essential. TOs/CTOs were drafted during Element 1 (TNA Stage 2, 1.5A Draft TOs/1.5B Draft CTOs), and these draft TOs/CTOs should now be further refined and developed during Design Stage 1.

6. TOs/CTOs are precise statements of what tasks a trainee should be able to do, post training, in the Role and/or team environment that the training was designed to prepare them for. A TO/CTO is measurable and has three constituents: the **Performance** required, the **Conditions** under which the trainee must perform, and the **Standard** to which the trainee must perform. These statements should be in the form of observable and measurable behaviours which allow the achievement of the TOs/CTOs to be confirmed through assessment. A TO/CTO defines what a

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108 As well as the production of EOs and KLPS, which form part of Stage 1.
successful trainee is able to do at the end of a period of training, i.e. the learning outcome\textsuperscript{109}. It does not describe the learning process or any learning experience.

7. TOs/CTOs should be derived from the respective Role/Team PS. The determination of TOs/CTOs is a skilled process and the product must accurately reflect the needs of the Role. The production of TOs/CTOs may be an iterative process and should be reviewed at each stage of the design process.

8. The three component parts of a TO/CTO are summarised in Table 1:

<table>
<thead>
<tr>
<th>Individual/Collective Training Objectives (three part format)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Performance</strong></td>
</tr>
<tr>
<td>What the trainee should be able to Do after training...</td>
</tr>
<tr>
<td>Use an observable and measurable action verb</td>
</tr>
<tr>
<td><strong>Conditions</strong></td>
</tr>
<tr>
<td>…with What and Where...</td>
</tr>
<tr>
<td>Specify the circumstances of the Performance</td>
</tr>
<tr>
<td><strong>Standard</strong></td>
</tr>
<tr>
<td>…and How well.</td>
</tr>
<tr>
<td>State the Standard to be achieved for the Performance</td>
</tr>
</tbody>
</table>

Table 1. Individual/Collective Training Objectives (Performance, Conditions, Standards)

9. **Performance.** The Performance (and sub-Performance) element of a TO/CTO states what a trainee/team should be able to do at the end of training and should be derived\textsuperscript{110} from the task (stated in the Role/Team PS) and therefore has an active verb as the first word in the performance element. When writing a TO/CTO performance for a task, the wording may need to be adjusted:

   a. If the task wording is not precise.
   b. If the task has more than one objective.
   c. To make the Performance absolutely clear to any reader.

10. The choice of verb for the Performance element of the TO/CTO is critical. To ensure the trainee has achieved the desired behaviour, a response must be witnessed. Performance elements need to use action verbs\textsuperscript{111}.

11. **Conditions.** The Conditions element of a TO/CTO, specifies the actual Conditions, or circumstances, in which the training Performance will take place. In training, the ideal solution is to provide the same Conditions normally experienced in the Role, e.g. using the real equipment. As this is not always possible, the Conditions element must clearly indicate what the training environment can provide. The Conditions element should fully describe the environment in which the trainee should carry out the task. Conditions can be considered in these broad categories:

   a. **Limitations to the range of Performance.** Such as, security, safety or legislative.
   b. **Equipment.** Such as tools, role aids, clothing, equipment.
   c. **General situation.** Indication of location, terrain, weather, daylight, climate, the threat, psychological, physical and social factors under which the training Performance is delivered should be detailed.
   d. **Support.** People, agencies, orders, standard and emergency operating procedures, manuals, references, check lists etc that are available to the trainee.

\textsuperscript{109} A lesson, series of lessons, a course, exercise, collective training event or training activity.

\textsuperscript{110} Derived from the task but not always a directly matching the task.

\textsuperscript{111} Verbs such as ‘know’ or ‘understand’ do not adequately define an action on the part of the trainee and are not observable or measurable. ‘Diagnose’, ‘assess’, ‘select’, ‘identify’, ‘distinguish’ are much more readily witnessed and can be assessed more easily.
12. **Standards.** The Standards element specifies the Standard that should be achieved by the trainee at the end of training. This should be related as far as possible to the Standard required in the Role. The Standards must be detailed enough to accurately assess if a trainee has achieved the Standard or not. Regarding the Role/Team PS, Standards can either be product Standards (minimum absolute Standards) or process Standards (certain procedures that need to be followed in a particular sequence) or a mixture of the two.

13. Determining the Standard of Performance required for all training environments is difficult. The nature of the Performance (which could be dangerous, critical, or an emergency task), the consequence of not meeting the Standard and/or the training category should be considered. The Standard required will ultimately affect how that Performance is taught and how the trainee is assessed. For example, if a very high Standard is required, the trainee will receive a large amount of training for the Performance (creating the possibility of becoming over-trained) and may be subject to strict assessment, such as no mistakes. The Standard should be accurate. Some Performances may be subject to external rules and regulations, i.e. the Standard is dictated such as:

   a. Health and Safety.
   b. Nuclear.
   c. Weapons handling.
   d. Flying regulations (such as Civil Aviation Authority).
   e. Legal requirements, both national and international.

14. Any restrictions in Conditions may impact on the Standards. Differences may occur if the Standard cannot be achieved because the Conditions cannot be simulated. Standards in TOs/CTOs should not be confused with the standards of tests. Whilst test standards should be set as closely as possible to those stated against the TO/CTO, there are certain areas where compromise may be necessary when setting test standards.

15. The identification of Standards relating to personal qualities, attitudes and behaviours is perhaps the most challenging part of TO/CTO development. This is because attitudes cannot be observed directly and hence the precision associated with other Standards is rarely possible. For subjective judgements objective criteria should, where possible, be used to support the decision (e.g. what observable behaviour is the key indicator that a trainee has acquired the appropriate Standard?). Defining the negative, what is unacceptable behaviour, can result in a simpler and more precise Standard.

16. **TO Tagging and numbering.** TOs/CTOs should be tagged to identify them as a Core (training) requirement, Legal requirement and/or Accreditation requirement, which is denoted using a letter (C, L, A) or a mark in the relevant column on the training statements with amplifying comments if appropriate. To ensure that training is allocated to all tasks, the link between tasks and TOs/CTOs should be shown through an auditable numbering/identification system. This can be achieved by using the task numbers from the Role/Team PS to identify their dependent TOs/CTOs. An example is at Table 2.

| Original Role/Team PS task number: | 2.1 |
| Single TO/CTO derived from one task: | TO 2.1 |
| Multiple TOs/CTOs derived from one task: | TO 2.1a TO 2.1b |

Table 2. Task Numbering System

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112 If a performance is affected by such factors, the document or regulation should be clearly referenced in the Standards element, such as, “in accordance with publication/law/act, section X, paragraph Y, date and version.”
FTS

17. **FTS – 2.2.** TOs/CTOs are the key component of the subsequent training statements that form the FTS, the formats for which are at Annex A. This activity creates a FTS which is made up of a TPS, a WTS, and a RTGS.

   a. **TPS – 2.2.1.** The TPS details TOs/CTOs (in terms of Performance, Conditions and Standards) to be attained by trainees. The TPS TOs/CTOs are managed and/or delivered by the TDA.

   b. **WTS – 2.2.2.** The WTS details TOs/CTOs (in terms of Performance, Conditions and Standards) to be attained by trainees following assignment to a Role. The WTS TOs/CTOs are managed and/or delivered by the employing unit.

   c. **RTGS**\(^1\) – 2.2.3. The RTGS is the difference between the totality of the training received and the Role/Team PS. It is the gap where an element of the Role/Team PS has not been allocated a training activity. The Residual Training Gap is expressed in terms of Performance, Conditions, and Standards. The RTGS also states the reasons and consequences of any identified RTG, and management of any associated risks.

18. It should be made clear on the documentation where TOs, that appear first as part of a TPS and later as part of a WTS, are linked. For example, if a trainee were to learn the theory of rotor track and balance in a training environment, then practise it in the workplace, a numbering system should be used in the TPS and WTS to show the linkage.

**EOs and KLPs**\(^1\)

19. **EOs – 2.3.** An EO is defined as a statement of Performance, Conditions and Standards that describes the KSA necessary for the trainee to achieve all or part of a TO/CTO. An EO sets the destination of a learning event and specifies what trainees can do at the end of a period of training that they could not do at the start. Where Conditions and/or Standards are common to a number of EOs, there is no requirement to duplicate the Conditions and Standards elements. In hierarchical terms, an EO is subordinate to a TO/CTO.

20. **KLPs – 2.3.** The material required to achieve the EO is further broken down into a number of relevant KLPs, derived from the KSA Analysis and/or Teamwork Description conducted in Element 1 (TNA Stage 2, 1.3.4A/B). KLPs state the Knowledge and Skill requirements, as well as the Attitude needs. The KLPs provide a sequenced framework for the development of the training activity and specify a Learning Outcome. KLPs are subordinate to EOs.

21. **Formatting and numbering.** The EO and subordinate KLPs have to be recorded. A numbering system is usually employed to show the relationship between the TO/CTO and EOs, and EOs and KLPs. The system also shows the sequence in which the EOs and KLPs will have to be achieved in order to achieve the TO/CTO. It is important that an audit trail allows the original task to traced through the TO/CTO to the EO and KLPs. One recommended method is a numbering system, such as that shown in Table 3.

\(^1\) Safety, legislation and/or resource constraints may prevent training taking place to achieve the Performance, Conditions and Standards detailed in the Role/Team PS. The difference between the Role/Team PS and the delivered training is known as the Residual Training Gap.

\(^1\) It is possible that at this stage, work conducted by the TRA to this point, is handed over to the TDA. So, once the FTS is completed, it is handed over (along with any and all other relevant work) to the TDA to produce the EOs/KLPs, ASpec, LSpec etc.
## DESIGN STAGE 2

**AStrat**

22. **AStrat – 2.4.** Tests and assessments are used for a variety of purposes, but most importantly they are used to ensure that the TOs/CTOs have been achieved by the trainees. The AStrat is the document describing the overarching assessment policy for the course/module and the associated rationale. It must include the consequences of failure of specified elements of the course/module and include any 'Return to Unit' policy for infringement of values and standards etc. It is also important to ensure these tests and assessments are reliable, valid and administered correctly. Assessment is usually a major consumer of resources, particularly time, and the AStrat can also influence Method & Media selection\(^\text{116}\). It is, therefore, important that the AStrat is endorsed by the TRA and appropriate governance body (such as the CEB) once the EOs/KLPs have been determined. A carefully conceived AStrat will achieve:

a. A justification for all testing on the basis of the overall assessment that has to be made, such that an individual is qualified to fill a Role or use equipment. In particular, the strategy should explain how the overall grade is determined.

b. An overview of the sort of tests to be used, the points during the training when they will occur, where the testing tools (such as exam banks, observation forms, exercise scenarios) are held and how the results of tests are to be interpreted and acted upon.

c. A record of decisions taken about the best approach to assessment and a guide for the later development of tests.

d. Valid assessment where tests match the requirements of the TOs/CTOs.

e. Influencing the manner in which training is delivered (such as a weapons trainer knowing that a summative test will emphasise practical handling skills and wisely ensuring ample trainee practice during training periods).

f. Improving reliability and integrity of tests through effective test administration.

23. **Elements of the AStrat.** The AStrat should include clear direction for:

a. The testing of each of the TOs/CTOs. This should be based upon practical summative tests supported by selected enabling tests in either practical or theory format. At this point, a short description of the test is sufficient (e.g. 'A practical test in which each trainee will command a tank during a troop advance', or, 'A theory test on the Highway Code').

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\(^{115}\) For TAFMIS users, TOs are given whole numbers at this stage.

\(^{116}\) Initial options for which were considered in Element 1 (TNA Phase 2, 1.6.3).
b. The formative testing of trainee progress. This might include a statement of purpose, an assignment of responsibility, a caution about the use of formative test results, and guidance on test feedback to trainees.

c. A policy for the assignment and interpretation of grades.

d. A policy for the action to be taken upon trainee failure of a (valid) test. As appropriate action will depend upon many variables, it is recommended that this policy be flexible rather than restrictive (e.g. a statement guaranteeing (or denying) a re-sit will seldom prove practicable); it would be better to establish a procedure (such as, a trainee Review Board) during which each case will be considered against criteria such as:

(1) Resources required to repeat the test, without compromise of test conditions and assessment standard.

(2) Requirements for additional tuition and/or practice.

(3) Likelihood of trainee success during the re-sit.

e. A policy for determining pass or failure. This can be a statement such as, “to successfully complete this training, trainees must achieve all TOs/CTOs,” or, “pass all summative tests”. The inclusion of such a simple statement provides focus to the testing; it can also prevent misunderstanding or grievance later on.

f. A policy for the maintenance of test records. This should state a clear requirement for:

(1) A record for each trainee which includes a summary of all test results (both formative and summative) as well as a record of formative action taken such as counselling notes or copies of written warnings. This record should be used to guide the preparation of the trainee report.

(2) A consolidated tabular record of summative test results. This record, accumulated over several repetitions of a training activity, provides valuable information for InVal of training in general and evaluation of tests in particular.

g. A policy for other reasons to RTU a trainee such as cheating or a lack of core values and standards.

24. Where testing is required\textsuperscript{117}, the overall AStrat will be used to produce the ASpec, as well as tests.

25. \textbf{KSA/Teamwork Description Refinement – 2.4.1.} Prior to the development of the ASpec, from the AStrat, it is important to revisit the KSA Analysis (1.3.4A) and/or the Teamwork Description (1.3.4B), which was conducted as part of Element 1. Refinement of the KSA Analysis and/or Teamwork Description will ensure that the ASpec is appropriate to the requirement and ensures that assessment is developed taking into account what is to be assessed (i.e. assessing a Skill requires a different form of assessment than testing Knowledge or measuring Attitudes). The content of Section 1.2 in this Guidance on Initial KSA (1.3.4A) can be referred to again at this stage. Further Guidance is also provided when the ASpec (2.4.2) is discussed.

26. \textbf{ASpec – 2.4.2.} While the AStrat gives an overview of the training assessment, where testing is required, the detail is provided in the ASpec. An ASpec is defined as a specification describing the organisation, type of test, marking details, pass/fail criteria for the assessment of TOs/CTOs and the consequences of failure. It provides practical details required to assess the

\textsuperscript{117} Testing is not always required, e.g. on an ‘attendance course’ such as the Future Commanders’ Study Period at DefAc.
achievement of the Standards specified by an associated TO/CTO. The suggested format for an ASpec is at Annex B. The factors listed in Table 4 should be considered.

<table>
<thead>
<tr>
<th>Assessment number/title</th>
<th>All tests should be uniquely identifiable. The test title should indicate the test purpose and relate to the course name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming of assessment</td>
<td>The ASpec is to indicate when the test is to be conducted. When programming a test consideration should be given to the type of test, scheduling of the course and to the most appropriate testing pattern</td>
</tr>
<tr>
<td>Type of assessment</td>
<td>The ASpec must detail the type of test being employed, such as, Practical, Theory (Written), Theory (Oral), Formative or Summative</td>
</tr>
<tr>
<td>Duration of assessment</td>
<td>The ASpec must detail the maximum time allowed for the trainee to complete the test. Adequate time must be allowed to complete the Performance being tested and incorporate recognised special requirements such as Specific Learning Difficulties (SpLD). Where appropriate, time allocated should reflect the time taken to complete the task in the workplace with allowance for lack of experience/practice</td>
</tr>
<tr>
<td>TOs and EOs assessed</td>
<td>All TOs, and where applicable, EOs covered by the specified test are to be detailed on the ASpec</td>
</tr>
<tr>
<td>Marking details</td>
<td>The ASpec must contain sufficient detail to show how the test is marked, the aim being to achieve maximum reliability in marking. This is best achieved through the provision of marking guides and checklists, which should be referenced</td>
</tr>
<tr>
<td>Assessment criteria</td>
<td>The assessment criteria stated in the ASpec are to reflect the Standard specified in the FTS. Consideration should be given to whether the same criterion applies to all parts of the test, such as, a test requiring an overall 80% mark may require 100% on safety related items</td>
</tr>
<tr>
<td>Consequences of not meeting the assessment criteria</td>
<td>The consequences of not meeting the assessment criteria, including repeated unsuccessful attempts, must be specified. The requirement for trained manpower and training review policy are to be considered. Consequences may include repeating the training course, withdrawal from training, re-categorisation, remedial or further training and practice under supervision</td>
</tr>
</tbody>
</table>

Table 4. ASpec Factors

27. Testing terms and concepts. The terms and concepts for testing are:

a. **Purpose.** The main purpose for testing is achievement measurement. This is designed to measure trainee learning and to use the measure taken as a basis for assessment (e.g. a Service person who dons a GSR in fewer than the requisite number of seconds (measurement) is deemed to have passed that element of the CBRN test (assessment)).

b. **Test suitability.** The main factors affecting test suitability can be considered under:

   (1) **Test validity.** Defined as the extent to which a test measures what it was designed to measure.

   (2) **Test reliability.** Defined as the extent to which a test will provide the same measurement when it is repeated. To be considered reliable, a test must measure consistently and accurately.

   (3) **Test usability.** A test may be valid and reliable, but will not feasible if it is impracticable to implement.

c. **Formative and summative assessments.** Assessment (or test) results are sources of information that can be put to many uses. Tests can be classified by the type of assessment made using the results:
Formative assessment. Also known as progress tests, formative assessments are administered at intervals during a training activity to gain data for feedback to trainees (and trainers) on trainee progress. They provide the basis for action to be taken by both parties to promote trainee success. The outcome of the assessment is to determine how much progress the individual or team has made thus far. Formative assessments should be used regularly to make trainees aware of their achievements and the areas in which they need to improve further.

Summative assessment. Summative tests are used to determine whether trainees have achieved the TOs/CTOs, or significant EOs, which are deemed prerequisite to further training. They provide the required data to assign pass/fail grades and are conducted at the end of training or at the end of each stage/module of training. The outcome of the assessment is to determine whether the individual or team is competent to carry out the Role or task without supervision.

d. Frames of reference. Tests are designed as instruments to measure trainee Performance and ability. Like any measurement tool, tests require a frame of reference in which to operate, otherwise the measurement cannot be quantified. Tests can be categorised as using either of the following frames of reference:

(1) Criterion reference. These tests measure whether a trainee has achieved a certain Standard. The trainee either passes or fails by reference to the criteria set in the test (e.g. criterion referenced tests are the driving test (theory) and the driving test (practical)).

(2) Norm reference. These tests measure a trainee’s relative standing against their peers. They are used to rank or order trainees rather than measure the achievement of specific objectives. Once ordered, trainees may then be grouped into specific classes or grades.

e. What to test. Trainees should at some point demonstrate that they can meet the required Standard of Performance for each TO/CTO. If areas are not tested, the Customer has no guarantee that the individual or team has achieved the required Standard. However, it is not always possible to test all training outcomes. Therefore, choices may have to be made, e.g. whether to test:

(1) All the Skills or Knowledge?

(2) All practical Skills?

(3) All TOs/CTOs separately and/or in combination?

(4) All EOs/ KLPs?

f. Test formats. There are two main ways in which tests can be presented:

(1) Practical tests. These tests are used to test the achievement of a Skill or Skills, both mental and physical. They can assess either the product of the Skill, or the process involved in employing the Skills and should have an associated checklist to ensure both reliability and objectivity in assessment. Examples of practical tests are Weapon Handling Tests, and simulator-based tests.

(2) Theory tests. Theory tests measure the Knowledge which supports Role skills by taking a sample of what must and should be known. These tests are usually in written form although oral tests can also be used. To achieve validity, theory tests require much care in construction and scoring.
28. **Marking of assessments.** All assessments should be conducted in a reliable and equitable manner. This is to be achieved by ensuring the standardisation and moderation of the marking process.

   a. **Standardisation.** Defined as a methodology for ensuring trainee responses are judged using predefined criteria, in order to provide a consistent basis for assessing all trainees.

   b. **Moderation.** Defined as a methodology for ensuring the marking of assessments is equitable.

29. **Collective training assessment.** In addition to the requirements described above which are relevant to individual and collective training, assessing the value of collective training can be achieved through:

   a. After Action Reviews (AARs) to determine the response of a force or FE (Force Element) to the collective training received;

   b. The use of assessment data against the specified Standards to determine the extent of learning transfer and the ongoing use of system data where available to determine the extent of collective Skill fade;\textsuperscript{118};

   c. The use of ongoing mentoring within forces or FEs to determine the extent to which behaviours have improved;

   d. The use of ongoing risk management within forces or FEs to determine the extent to which the operational requirement can be met;

   e. Assessment against the Standards identified in the TCTA. These Standards need to provide metrics or, where metrics are not possible or are inappropriate, other forms of assessment (e.g. relative measures of Performance).

**Selection of Methods & Media**

30. **Selection of Methods & Media – 2.5.** It is important to consider the most appropriate and effective blend of training Methods & Media that provides the most cost-effective way of imparting the required KSA. During Element 1 Methods & Media options (1.6.3A/B) were developed and considered as part of the CBA (1.7.1), in order to ensure that the Options Analysis (1.7.2) recommended a training solution with realistic Methods & Media options. These options should now be further refined as part of the Design process.

   a. **Methods.** These are the strategies or techniques used to impart the required KSA.

   b. **Media.** These are the tools and means used to apply the Methods selected.

31. The selection of Methods & Media should consider the requirements identified by the KSA Analysis (1.3.4A), the Teamwork Description (1.3.4B) and the Training Audience (and Throughput) Description (1.2.2). It should also consider additional factors, such as, characteristics of trainers, cost-effectiveness, training efficiency and availability of learning resources and identified Constraints (1.2.3). For individual training, training categories (1.3.6A), which form part of the Role PS, will also inform the process of selecting Methods & Media.

32. **Digital Literacy Mapping Tool.** The Digital Literacy Mapping Tool to assist with Methods and Media selection is available on the JSP 822 webpage.\textsuperscript{119}

\textsuperscript{118} Data could be provided by Combat, Platform or Maintenance Management Systems, for example.

\textsuperscript{119} https://www.dle.mod.uk/course/view.php?id=14579#section-7
33. **Methods factors.** Training Methods may include lectures, tutorials, practical events and discussion or a combination of these. There are many different factors that can influence the selection of the strategy or technique for imparting Knowledge, mental and physical Skills and Attitudes. EOs (2.3), the KSA Analysis (1.3.4A)/Teamwork Description (1.3.4B), Role (1.3A) Task (1.3B) Analysis all contribute to this\(^{120}\). To help determine the training effectiveness of the different Methods, these factors should be considered.

a. **Learning factors.**

(1) **Type of learning.** The Method used to deliver training depends on whether learning is categorised as Knowledge, a mental or physical Skill, or an Attitude. Each EO must be examined to determine whether it is primarily expressed as a KSA. This will suggest the appropriate choice of Method (e.g. a Skills-based EO must have some element of practice involved in the Method; whilst role-play is an example of a training Method suitable for a Behaviour-based EO). The aim must be to choose a Method that is compatible with the material to be learned. Learning a physical Skill may require equipment and machinery and a low trainee-to-trainer ratio as it tends to be trainee-centric. Knowledge learning can normally be carried out as a group with higher numbers or via e.learning.

(2) **Retention ability\(^{121}\).** A basic categorisation of training Methods should state that these can either be trainer or trainee-centric. The appropriate selection of training Methods improves the effectiveness and efficiency of learning. Wherever possible, a learner-focused approach should be adopted although this is not always as simple as it seems as it can be time consuming and resource heavy. A learner-focused approach aids information retention by considering the needs of the trainees and increasing their involvement in the learning process. A trainer-focused approach, whilst increasing trainee-to-trainer ratios, is not as effective for aiding trainee retention. The more active the trainee is in the learning process, the higher the rate of retention.

(3) **Learning styles.** Everyone learns differently. Attempting to fulfil the needs of each trainee is therefore not easy. Presenting the material in a variety of ways will help to cater for the majority. However, there is no one right way to select, or even use, training Methods & Media. Trainees in one group are likely to have different abilities from trainees in another group. Where possible these differences should be accounted for.

b. **Trainee characteristics.**

(1) **Motivation.** There may be a contrast between groups of trainees in terms of their experience, maturity, sense of responsibility and motivation. One group may require a trainer-dominated setting to be most effective, while another group could need less control and benefit more from a self-learning system.

(2) **Literacy level.** Information should only be presented to trainees in a form they can cope with. Information should not be at a level that they cannot comprehend nor should it be at a level which will patronise. Key questions should include ‘What is the literacy level of the trainees?’ and ‘What is the most appropriate language for passing information?’

(3) **Numbers.** How many trainees should there be in each group? A large group will make trainer demonstrations difficult to plan. A small group will limit trainee discussions and peer learning.

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\(^{120}\) Training Optimisation Final Technical Report provides descriptions of training interventions which appear to have value for enhancing training. Further information is detailed at Part 2, Chapter 5, Section 5.1.

\(^{121}\) See the CRAT User Guide. Details are at Part 2, Chapter 5, Section 5.1.
(4) **Age.** Older trainees often work most effectively in a situation where they are in charge of their own learning although, latterly, younger trainees can also be comfortable undertaking self-directed learning.

c. **Practical constraints.** Facilities and resource availability are likely to limit the choice of Method and the most appropriate Media are not always practical or within budget. The medium may be unavailable; there may not be time to meet all the TOs/CTOs; it may be difficult logistically or financially; or the group may be of mixed ability and unable to make the best use of the Media selected. Where resources to support the optimum training Method are not available, lack of availability is likely to affect the successful achievement of the TOs/CTOs. Such constraints should be captured in the Constraints Analysis (1.2.3) and/or the Risk Register (1.2.4). The TRA and Customer should be advised of this fact and made aware of the likely consequences.

d. **Trainer attitude and ability.** A question that will need to be asked is: can, or will, the trainers be able to use the Media selected? Trainers are unlikely to use Media that they do not understand, which increases their workload or which is complex to manage. If new teaching Methods are to be introduced then due regard must be given to ensuring that trainers are both willing and able to cope. To avoid such issues designers should:

(1) Involve trainers in the Design process as early as possible.

(2) Identify any additional trainer training requirements.

e. **Time availability.** Care should be taken to avoid false economies. A lecture may seem to be an attractive option for passing large amounts of information in a relatively short time but the information received by the trainees may be processed at only the most superficial level. Imaginative combinations of compatible objectives within a single lesson or event can enhance learning within the time available.

f. **Need for transfer of learning.** Apart from some types of workplace training, the training environment will differ to some extent from the work environment. It is therefore important that the training Method chosen should minimise this difference to make the transfer of KSA from the training environment to the work environment as easy as possible.

g. **Priority of learning.** It is unlikely that the various subjects to be trained will all be of equal importance to the trainees in their future Role. Some Skills may be used on a daily basis while others may be only be used sporadically but, when they are used, are essential. This requires Performance to be maintained at a consistently high Standard. The results of the DIF Analysis (1.3.3A), the consideration of skill fade factors and/or the analysis of Critical Errors (1.3.3B) may have a significant influence on the Method selection. In subjects where the possibility of skill fade could have dire consequences, consideration must be given to ensuring that appropriate Methods & Media are implemented to enhance retention. This may or may not require the allocation of extra training time.

32. **Media factors.** The process of selecting training Media requires a good understanding of the EOs and knowledge of the available resources. The main consideration in selecting appropriate Media must always be its effectiveness in supporting learning (both initial acquisition and refresher). Although the quality of ‘presentation’ must not be neglected, what really counts is content (consider: are the Media capable of presenting training stimuli for learning?). Often one medium is not enough for presenting the stimuli required and so a multimedia or ‘blended learning’ approach is required.

33. **Variety of Media.** Consideration should be given to the characteristics of Media, in terms of whether they are essential or optional:
a. **Essential Media characteristics.** Essential Media characteristics control the clarity of the message. For example, learning a foreign vocabulary requires print (to recognise words) and audio Media (to pronounce them). Training designers should consider:

(1) Media that is appropriate to deliver the desired learning outcomes.

(2) Media that provides an appropriate level of fidelity.

(3) Media that can cope with trainee throughput.

b. **Optional Media characteristics.** Optional Media characteristics improve the quality of the training. There are some considerations that can influence selection:

(1) Attractiveness to the learner: colour, animation, illustration.

(2) The trainees’ study habits.

(3) The trainers’ style, habits and Skills.

(4) Media that, from experience and research, improves learning efficiency.

(5) Media that allows the efficient management of training.

(6) Media that has low risk of failure (for whatever reason).

34. **Methods & Media selection process.** The selection of the most cost-effective way to meet a training requirement involves identifying a range of possible training solutions, in terms of the Methods & Media options that can be used. The choice of options will be dependent upon the requirement, training policy, training throughput and established good practice. These are evaluated by comparing the training and cost-effectiveness of each option (1.7.1), from which the most suitable solution can be chosen and recommended with supporting justification.

35. Defence Direction requires that Defence Learning Environment (DLE) based Methods & Media Selection Tool must be considered for all new learning requirements. Note that DLE-based Methods & Media will be suitable for most, but not all, elements of learning, and that blended solutions offer the best opportunity to increase the efficiency and effectiveness of Defence Learning. Typically it is the Knowledge category of the KSA spectrum which can be handled most flexibly through DLE. Defence Direction for Technology Enhanced Learning (TEL) is contained within Part 1 of this JSP and advice can be sought from the DTEL team at the UK Defence Academy (DefAc) 122.

36. A particular training Media may appear to be best suited to a particular training activity but can only be adopted as the solution if all resourcing issues (effectiveness, manpower, equipment and facilities etc) combine to produce the most effective, efficient and economic overall through-life package. It is therefore important to determine the personnel, facilities and equipment required to train, and cost them over the lifetime of the training activity including Design, Delivery and Evaluation. Cost-effectiveness can be analysed at a simple level by comparing costs for a number of different areas. Examples are:

a. Trainee pay and allowances.

b. Trainer costs.

c. Support staff costs.

122 TEL Knowledge Hub: [https://modgovuk.sharepoint.com/teams/17799/DTEL/SitePages/Home.aspx](https://modgovuk.sharepoint.com/teams/17799/DTEL/SitePages/Home.aspx)
d. Travel and subsistence costs.

e. Training equipment hardware/software (initial costs and running costs).

f. Equipment maintenance costs.

g. Training materials and production of their cost.

h. Classroom overheads.

i. Accommodation and food where appropriate.

37. When developing a training solution it is important to make the estimates as accurate as possible and record the actual costs incurred in order to provide a basis for estimates in the future. Advice should be sought from budget/finance managers. Once cost and training effectiveness data have been gathered a trade-off should be made between the two. This may involve a broad qualitative comparison that assisted in the selection of the recommended training solution. Approval for resources and expenditure should be sought as soon as possible so that training is in place in time to support the Defence need. The selection and subsequent development of the training solution should include the following elements:

a. A list of Methods & Media considered.

b. A description of the Methods & Media options that will partially or fully meet the training requirement, as described by the TOs/CTOs.

c. An estimation of the relative effectiveness of each Media option.

d. The training penalties of each option stated in terms of the degradation of the Performance, Conditions and Standards as specified by the TOs/CTOs.

e. A refinements of the CBA (1.7.1) using a broad order of costs.

DESIGN STAGE 3

LSpec

38. Learning Scalar – 2.6. In order to assist with the development of the LSpec, it may be useful to order any EOs and KLPs (2.3) that are linked to the TOs/CTOs (2.1), into a scalar that will assist in the sequencing of the training activity. A Learning Scalar will also help to teach in order (building KSA), prepare lesson plans/events, and develop the LSpec. An example is at Figure 3 (note that EOs/KLPs can be expressed either vertically (taught in that order) or horizontally (taught in any order)).

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123 This activity was initially conducted in Element 1 as a CBA (TNA Stage 2, 1.7.1).
A key aspect of the Training System is its execution, i.e. the training being delivered to trainees. It is therefore at this stage that the result of the previous Analysis stages and Design stages are brought together to enable the trainer to produce lesson plans, and/or collective training event plans, to ensure effective training wherever it is delivered. This is done through the generation of LSeps; the main purpose of which is to control the execution of training i.e. what is taught and how it is taught.

LSeps are produced from the outputs from the Design stages covered previously that produce an AStrat and Methods & Media selection. The Defence format for LSeps is at Annex C. Depending on the nature of training, LSeps can be succinct or very detailed. They contain the details of the EO and associated KLPs, the relevant assessment/test, Method & Media selected, time allocated and resource requirements and essential references. Thus the lesson, or event, to be delivered and all the information needed by the trainer to deliver training, including the structure and sequence of training, is contained within the LSpec. It covers 2 main areas: administrative details of the course, and the execution parts of the training delivery. There may be more than one execution part if there are a series of lessons, or events, required to achieve a single EO.

a. **Administration.** This part of the LSpec outlines the administrative details of the training activity.

b. **Execution.** This part of the LSpec lists all the essential details of the lesson/s, including a summary of the structure (through the listing of the KLPs). It can also be used to evaluate the training delivery.

The most important part of the LSpec is the Development section (within the Execution) as it deals with the material to be taught and includes the structure of the main body of the lesson, or event, via the sequencing and development of KLPs. It should include all essential information on content with reference to the use of any Methods, Media and teaching activity. All the material delivered is based on the TO/CTO as well as:

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1. The term ‘Learning’ has replaced ‘Instructional’ to denote that the specification will seek to generate a learning environment, rather than be conducted as just a process to simply enable instruction, or training.
a. **EO.** Each LSpec should be based on an EO which contributes to the main TO/CTO. However, there may be instances where more than one EO is covered within one LSpec (where the material is very closely related) and should therefore be taught as an integrated whole. An LSpec may also cover more than one lesson or event.

b. **KLPs.** In order to achieve the EO, it is broken down into a number of relevant KLPs. KLPs are sequenced to ensure that the lesson develops logically and the EO is met.

42. The main components that contribute to any LSpec are summarised in Figure 4.

![Figure 4. LSpec Contributing Components](image)

43. A suggested procedure for writing LSpecs is summarised in Table 5 and a more detailed LSpec is at Annex C.

<table>
<thead>
<tr>
<th>Action</th>
<th>Data Source</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select the EO(s) for the lesson/event</td>
<td>KSA Analysis/Teamwork Description</td>
<td>Lessons may have more than 1 EO. EOs may require more than 1 lesson to cover</td>
</tr>
<tr>
<td>Select the KLPs for the EO</td>
<td>KSA Analysis/Teamwork Description EO Standards</td>
<td>Refer to the EO Standards</td>
</tr>
<tr>
<td>Place the KLPs in a logical sequence</td>
<td>KSA Analysis/Teamwork Description EO Standards</td>
<td></td>
</tr>
<tr>
<td>Conduct Method &amp; Media analysis on the EO</td>
<td>Method &amp; Media selection Training Categorisation</td>
<td>Training Categories will give guidance on amount of emphasis to be placed and Method &amp; Media to be employed</td>
</tr>
<tr>
<td>Development part of the LSpec</td>
<td>TOs/CTOs/EOs SME input Training Categorisation</td>
<td>Compile each lesson in sequence building in all the necessary information. Training Categories will give guidance on amount of emphasis to be placed during training</td>
</tr>
<tr>
<td>Administration part of the LSpec</td>
<td>LSpec development ASpec TO/CTO/EO Conditions</td>
<td>Resources, test details, timings, can be identified from the data sources</td>
</tr>
</tbody>
</table>

Table 5. Suggested LSpec Writing Procedure

44. **Management of LSpecs.** If there is an inconsistency in what is taught, trainees may fail to achieve the KLPs, EOs, TOs/CTOs and consequently the FTS. A system is required by Training Providers to ensure that LSpecs are controlled and managed. Management of the LSpec is important to ensure:

a. A recognised amendment procedure to avoid unauthorised changes.

b. The correct issue of an LSpec is being used.

c. A record is kept of the current amendment state.
Collective training trainer tasks

45. **Collective training trainer tasks – 2.7.** The training OA conducted in Element 1 (TNA Stage 2, 1.4B) considered trainer tasks, i.e. the tasks that would need to be conducted by trainers in support of collective training. This may include coaching, mentoring, role-playing, delivery and assessment. This may therefore involve the need for additional environment or task-specific training of the trainer (i.e. additional trainer training, such as range safety, which are additional to normal requirements because of the location and may not have been identified earlier). These evolving requirements should be captured in the LSpec if they were not identified during Element 1. This will help to identify and refine the Deployed collective trainer training requirements covered during Element 3 (Delivery, 3.2.4).

MTS

46. **Risk/assumption management – 5.7.** On a continuous basis, the risks and assumptions recorded on the risk and assumption registers established during Element 1 (TNA Stage 1, 1.2.4), and in MTS Activity 5.4, should be updated. Any new and emerging risks/assumptions to both the recommended training solution and the TNA process should be added.

   a. **Risks.** Where risks are identified, a plan for mitigation should be enacted and resources allocated, where necessary. It may be the risks need to be transferred to the appropriate governance body for authority to treat through mitigation, tolerate (if mitigation is not feasible), or transfer (if the risk needs to be elevated to a higher level). Risks should then be fed back into the DSAT process in order to ensure that activities are either repeated or conducted bearing the risks in mind.

   b. **Assumptions.** As the DSAT process progresses there may be a need to make assumptions, where accurate or up-to-date information is unavailable, in order to continue the process without delay. As information becomes available assumptions can be removed and replaced with fact. The appropriate governance body should regularly review and endorse the assumptions and DSAT processes should be repeated if necessary.

47. **Training Design Review – 5.8.** It is important that at about this stage, a review of the training design takes place, in order to ensure that it has generated the outputs necessary to deliver a successful training activity, with the optimum blend of Methods & Media, based upon the training need. This ensures that the training Design process has adhered to the appropriate Design stages and checks those processes against the specific training requirement. It is also important that the management and governance processes allow differing groups and teams involved in the Delivery stages to be kept aware of each other’s progress, updated and generally communicated with as required. The key components of a training design review are:

   a. **Design inputs.** Inputs relating to Performance requirements should be determined and records maintained. These inputs should be reviewed periodically for continuing validity. They may include:

      (1) Core and functional Performance requirements;
      (2) Applicable statutory and regulatory requirements;
      (3) Information derived from previous, similar design activities;
      (4) Organisational requirements essential for design.

   b. **Design outputs.** The outputs of the Design stages should be provided in a form that enables them to be checked against the design inputs and should be approved prior to release. They may include:
(1) Appropriate information for the acquisition of training solutions, the delivery of training, the assessment of the trainee, the accreditation of the training and the evaluation of the Design process itself;

(2) The agreed TOs/CTOs (between the TRA and TDA);

(3) Where applicable, the prerequisites required by the trainee prior to the commencement of the training activity (trainee entry standards);

(4) The KSA of the trainee on completion of the training activity.

c. Design stage review. At defined intervals, systematic reviews of each stage of the Design Element should be performed in order to:

   (1) Evaluate the ability of the results of the Design stage(s) to meet requirements specified in the TOs/CTOs;

   (2) Identify any problems/issues and propose necessary remedial actions;

   (3) Maintain Quality Records.

   (4) Ensure that resulting training activity is capable of meeting the requirement.

d. Control of Design changes. Design changes should be identified and reviewed, verified and approved by the appropriate authority (such as the TRA, and/or the CEB) before implementation. The review of design changes should include evaluation of the effect of the changes on related design activities and/or related training outputs already being delivered. Alterations or additions to a training activity, to enable trainees to obtain an external qualification should not compromise the achievement of Defence outputs or training outcomes. Records of the results of the training design review and any necessary actions should be maintained by the TDA.

48. TrAD – 5.9. Following on from the initial raising of the TrAD at the end of Element 1, Stage 1 (5.2), and now that the Design stages (Element 2) are complete, formal authority to begin training is to be sought. This is done by the TRA and relevant stakeholders updating the TrAD and formally endorsing it (usually at a CEB). The RFTD should also be confirmed and used to refine trainee throughput planning (1.2.2) and pipeline management (5.4) conducted during Element 1. The suggested format for a TrAD is in Part 1, Chapter 1, Section 1.1 (Annex A). Without TrAD endorsement, Element 3 (Delivery), cannot commence.

Annexes:

A. Formal Training Statement (FTS).
B. ASpec.
### FORMAL TRAINING STATEMENT (FTS)

#### OFFICIAL

##### SECTION 1 TRAINING PERFORMANCE STATEMENT

**Role PS REFERENCE:** 76/09  
**DUTY TITLE (as appropriate):** Carry out Aircraft Area Based Maintenance  
**DUTY NUMBER:** 13.0  
**COURSE TITLE:** Weapon Technician Tradesmen For Initial Employment  
**HRMS/JPA COURSE NUMBER:** 1242  
**TRA(S):** Engineering Branch & Trades Sponsor  
**ISSUE STATUS:** Version 3-00

<table>
<thead>
<tr>
<th>TO Number</th>
<th>Training Objective (Performance)</th>
<th>Condition</th>
<th>Standard</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| 13.34a   | Describe the actions to be carried out prior to loading a weapon on an aircraft. | 1. In a classroom.  
3. With access to the relevant, technical publications. | 1. In accordance with AP101B-4104-1A  
2. In accordance with AP101B-4104-5A6A. | X |
| 13.34b   | Load a (type) bomb as a member of a Weapon Load Team. | 1. On a Tornado ground training aircraft.  
2. In a hangar.  
3. Using the tools and equipment as detailed in the relevant technical publication. | 1. In accordance with AP101B-4104-5A6A LP 40A  
2. Observing all Warnings and Cautions.  
3. Working as an individual.  
4. Working in a team. | X X |
| 13.34c   | Describe the process of GPS and Cryptographic Key Data loading following (type) bomb loading. | 1. In a classroom.  
3. With access to the relevant, technical publications. | 1. In accordance with AP101B-4104-5A6A. | X |
# SECTION 2 WORKPLACE TRAINING STATEMENT

**Role PS Reference:** 76/09  

**Duty Title (as appropriate):** Carry out Aircraft Area Based Maintenance  

**Duty Number:** 13.0  

**Course Title:** Weapon Technician Tradesmen For Initial Employment  

**HRMS/JPA Course Number:** 1242  

**TRA(S):** Engineering Branch & Trades Sponsor  

**Issue Status:** Version 3-00  

<table>
<thead>
<tr>
<th>TO Number</th>
<th>Training Objective (Performance)</th>
<th>Condition</th>
<th>Standard</th>
</tr>
</thead>
</table>
| 13.34     | Load a (type) bomb as a member of a Weapon Load Team. | 1. On a Typhoon aircraft.  
2. On a Tornado aircraft.  
3. In a hangar/Hardened Aircraft Shelter/Flight Line.  
4. Using the tools and equipment as detailed in the relevant technical publication. | 1. AP100B-01.  
2. In accordance with relevant aircraft loading schedule.  
3. Observing all Warnings and Cautions.  
4. Working as an individual.  
5. Working in a team. |

**Type of External Training:**  

- Training delivered at Main Operating Bases by Weapon Load Training Cells.  

**Requirement:**  

- X  

**Notes:**  

- 1. Student will not be trained to Role PS standards until awarded MAP Auth on completion of full 5A6 training on a Main Operating Base within a Weapon Load Training Cell.
OFFICIAL
SECTION 3 RESIDUAL TRAINING GAP STATEMENT

<table>
<thead>
<tr>
<th>Task Number</th>
<th>Performance</th>
<th>Condition</th>
<th>Standard</th>
<th>Reason(s)</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.34</td>
<td>Carry out bomb loading on aircraft.</td>
<td>1. Work in all Theatres in times of conflict 2. During times of peace, peace support operations, peace enforcement operations, and transition to war 3. Work in extreme heat and cold 4. Work effectively while fatigued 5. In Chemical, Biological Radiological &amp; Nuclear (CBRN). 6. Working in hangers, Hardened Aircraft Shelters, Flight line.</td>
<td>1. MAP-01. 2. MAP-02. 3. JSP 375. 4. JSP 418. 5. JSP 482. 6. JSP 815. 7. AP100B-01. 8. In accordance with all relevant aircraft Maintenance Manuals. 9. Tornado AP101B-4104-5A6A. 10. Typhoon AP101B-5400-5A6A.</td>
<td>1. Unable to carry out or simulate Conditions 1 to 5 within the training environment. 2. Only able to satisfy the Hanger element of condition 6 within the training environment.</td>
<td>1. Student will not meet full Role PS conditions until deployed on Operations.</td>
</tr>
</tbody>
</table>
# ASSESSMENT SPECIFICATION

## Assessment Specification Guidance

### Introduction
Overall aim of ASpec, such as, “assess trainee is capable of carrying duties of a .....”
Types of tests to be used
If there is an entry standard

## Test Types

### Entry Tests
- **Purpose/Format**
- Contents: test details
- Who to carry out and when
- Test type: practical/theory
- Criterion or norm referenced
- Grading or pass policy
- Failure policy
- Resources required and where stored

### Formative Tests
- **Purpose/Format**
- Who to carry out and when
- Test type: practical/theory
- Specific Skills, Knowledge and Attitudes (KSA) to be tested i.e. which TOs/CTOs/EOs must be formatively assessed?
- Criterion or norm referenced
- Grading or pass policy
- Failure policy
- Resources required and where stored

### Summative Tests
- **Purpose/Format**
- Who to carry out and when
- Test type: practical/theory
- Specific KSA to be formatively tested - Normally listed against the TO/CTO/EOs of the course as a table
- Criterion or norm-referenced
- Grading or pass policy
- Failure policy
- Resources required and where stored

## Results
Grading policy
Failure policy

## Standardisation and Moderation Procedures

### Standardisation procedures

### Modernisation procedures

### Test records and maintenance policy
<table>
<thead>
<tr>
<th>Assessment Number</th>
<th>Assessment Title</th>
<th>Assessment Programming</th>
<th>Format of Assessment (Theory/Practical)</th>
<th>Type of Assessment (Formative/Summative)</th>
<th>Assessment Duration</th>
<th>TOs being Assessed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Additional Requirements
References:
Marking details:
Pass/Fail criteria
Consequences of failure
LEARNING SPECIFICATION (LSPEC)

SECTION 1: ADMINISTRATION

1. Course

<table>
<thead>
<tr>
<th>Course No/ Title</th>
<th>2001 – Defence Train The Trainer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module Title</td>
<td></td>
</tr>
<tr>
<td>Lesson Title</td>
<td>Planning a Lesson</td>
</tr>
<tr>
<td>Training Objective:</td>
<td>3.1 Plan group learning</td>
</tr>
<tr>
<td>Enabling Objective:</td>
<td>3.1.1 Identify learning outcomes</td>
</tr>
<tr>
<td></td>
<td>3.1.2 Identify trainee start states</td>
</tr>
<tr>
<td></td>
<td>3.1.3 Establish boundaries and constraints</td>
</tr>
<tr>
<td></td>
<td>3.1.4 Develop a lesson plan</td>
</tr>
</tbody>
</table>

2. Administration

<table>
<thead>
<tr>
<th>Duration</th>
<th>3 x 45 mins + 45 minute demonstration of a skills lesson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Classroom</td>
</tr>
<tr>
<td>References</td>
<td>• JSP 822, Part 2, Chapter 1, Section 1.4 (Delivery of Training)</td>
</tr>
<tr>
<td></td>
<td>• Present Apply Review model – Staff resource on DVLE</td>
</tr>
</tbody>
</table>

3. Support

| Handouts | • PAR for Skills handout  |
|          | • Lesson plan template handout |
| Exercises | As outlined in Development |
|           | Trainer should prepare a 30 minute skills lesson demonstration to be delivered at the end of the lesson followed by a discussion and review of the methods used. |
| Equipment | Wipe board, flip chart or Smart Board (if using Smart Board, may wish to provide print out of PAR table for students to use as handout and portfolio evidence) |
| Preparation | Class layout should suit group/pairs working |
4. **Key Learning Points**

<table>
<thead>
<tr>
<th>3.1.1.1</th>
<th>Use Instructional Specifications to identify learning outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.2.1</td>
<td>Identify strategies for identifying start states</td>
</tr>
<tr>
<td>3.1.3.1</td>
<td>Assess time and resources available.</td>
</tr>
<tr>
<td>3.1.3.2</td>
<td>Assess audience characteristics</td>
</tr>
<tr>
<td>3.1.4.1</td>
<td>Select appropriate structure, format and timing</td>
</tr>
<tr>
<td>3.1.4.2</td>
<td>Identify suitable formats for lesson plans</td>
</tr>
<tr>
<td>3.1.4.3</td>
<td>Research relevant content</td>
</tr>
</tbody>
</table>

5. **Risk Assessment**

Trainer is to make students aware of unit risk assessment register in relation to the training environment.

**Notes:**
### SECTION 2: EXECUTION

#### PART 1: INTRODUCTION

<table>
<thead>
<tr>
<th>Serial</th>
<th>Lesson Element</th>
<th>Guidance</th>
<th>Media(^{125})</th>
<th>Trainer Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Interest (Attention)</td>
<td>Ask students to imagine the person next to them is a new recruit. &quot;Think for a minute about how you would teach them to lace and tie a high leg boot.&quot; Give students a minute to reflect and then feedback – probably something like &quot;show them how to do it, let them try, correcting any mistakes.&quot; (Remind that if they are very good, they will also have exploited the person's previous experience by saying something like &quot;it's like tying a shoelace, except for...&quot;) Now ask students to imagine teaching the same thing to the whole class – would they do it differently? Why? Finally, ask them to imagine teaching the same thing to a whole class of trainees who have never seen shoes before. What would change this time?</td>
<td>PPT</td>
<td>The aim of this exercise is to bring home to students the challenges of teaching a large group and the importance therefore of planning, even when an LSpec is already available. The focus of the lesson is on teaching skills (knowledge based lessons will be dealt with in a later lesson), so all examples should focus on skill rather than knowledge.</td>
</tr>
<tr>
<td>2.</td>
<td>Need (Relevance)</td>
<td>Teaching a skill comes naturally to most of us – we do it in our everyday lives, e.g. teaching our children, teaching others at work. But when we teach a larger group, we start to see certain challenges. We have already talked about the importance of inclusion in training – making sure every trainee has the opportunity and the support to learn. In order to make sure that happens with a large group, we need to do some careful planning and preparation. We could probably all teach 'off the back of a fag packet', but if we do, there is a good chance that some of our trainees will miss out.</td>
<td></td>
<td>Students who have already completed a DIT course should be made aware that this lesson introduces a new way of planning that will be unfamiliar to them, but which will allow them to be more flexible in their approach to lessons. They will be given the opportunity to build on their existing knowledge of skills lessons and develop more advanced planning skills.</td>
</tr>
</tbody>
</table>

\(^{125}\) The media indicated is a guideline. The instructor may use media of their choice to display the key points, e.g. PPT/Whiteboard/Flip Chart/Mag Aid.
<table>
<thead>
<tr>
<th>Serial</th>
<th>Lesson Element</th>
<th>Guidance</th>
<th>Media</th>
<th>Trainer Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Title</td>
<td>Planning a Lesson</td>
<td>PPT</td>
<td>Display title at beginning of lesson</td>
</tr>
<tr>
<td>4.</td>
<td>Rules</td>
<td>Trainer to give the rules and parameters of the lesson. Time Rules for group working Notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Aim</td>
<td>To develop a plan for teaching a skill to a group of trainees, in accordance with Defence training standards. By the end of the lesson you will be able to: Identify learning outcomes Identify trainee start states Establish boundaries and constraints Develop a lesson plan</td>
<td>PPT</td>
<td>Display the objectives</td>
</tr>
<tr>
<td>6.</td>
<td>Any Questions?</td>
<td>Trainer to invite student questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KLP No/KLP Statement</td>
<td>Amplification of Material</td>
<td>Media&lt;sup&gt;126&lt;/sup&gt;</td>
<td>Trainer Notes</td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>--------------------------</td>
<td>---------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>KLP 3.1.1.1 Use Instructional Specifications to identify learning outcomes</td>
<td>Briefly REVIEW the lesson on Training Documentation and brainstorm all the information that is provided by the LSpec. Ask students “What information is not provided that you think you might need in order to plan your lesson properly?”</td>
<td>Wipe Board Or Flip Chart</td>
<td>Students should have covered this KLP as homework or ‘flipped learning’ using the “Training Documentation” lesson on the VLE. The lesson could therefore start with a Speed Dating session to revise what they have learned.</td>
<td></td>
</tr>
</tbody>
</table>
| KLP 3.1.3.2 Assess audience characteristics | Who are my audience? Establish that information about the trainees is not provided on an LSpec. Link back to the previous lesson on Principles of Adult Learning and remind of the need to respect and exploit trainee previous experience. Discuss the importance of inclusion. The trainer therefore needs to know as much about the trainee as possible. Brainstorm what the trainer might need to know about trainees before planning a lesson. Examples will include:  
- Audience characteristics e.g. age, gender, culture, experience  
- Audience needs e.g. learning difficulties, preferred learning styles  
- What they already know/can do | Example LSpecs (1 per student) | Students should already have an LSpec issued to them for their first TP, which can be used as a training aid during this lesson. |
| KLP 3.1.2.1 Describe strategies for identifying start states | Discuss how a trainer can determine before the lesson what the trainees already know or can do. Highlight the following strategies:  
- Check what they have already covered on the course – look through LSpecs, course programme etc.  
- Look at assessment records (including Functional Skills assessments)  
- Talk to other trainers | | |
| KLP 3.1.3.1 Assess time and resources available | Establish that while the LSpec recommends the appropriate time needed for the lesson and suggests the resources required, in reality this may not always be available to the trainer. | | |

<sup>126</sup> The media indicated is a guideline. The trainer may use media of their choice to display the key points, e.g. PPT/Whiteboard/Flip Chart/Mag Aid.
### PART 2: DEVELOPMENT

#### Amplification of Material

Previous lesson is going to run over time, but they can anticipate other timing problems and plan for them accordingly. Examples of how timings might change from the LSpec are:

- What the trainees will have been doing prior to the lesson, e.g. PT session, exam
- What the trainees are going to be doing after the lesson, e.g. lunch timings, weapons lesson (armoury timings)

**Resources**
The LSpec will only give guidance on the resources required. Once the trainer has done the research on the trainee audience and the time available, they will be in a better position to think about what resources they require and how many are required of each.

Where the recommended resources are not available, the trainer will need to think about how they are going to adapt or improvise to meet the need.

<table>
<thead>
<tr>
<th>KLP No/KLP Statement</th>
<th>Amplification of Material</th>
<th>Media</th>
<th>Trainer Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous lesson is going to run over time, but they can anticipate other timing problems and plan for them accordingly. Examples of how timings might change from the LSpec are:</td>
<td></td>
<td>Look forward at this point to studying resource selection in more detail in a later lesson.</td>
<td></td>
</tr>
<tr>
<td>Resources</td>
<td>Resources</td>
<td>Trainer-led discussion</td>
<td></td>
</tr>
<tr>
<td>The LSpec will only give guidance on the resources required. Once the trainer has done the research on the trainee audience and the time available, they will be in a better position to think about what resources they require and how many are required of each. Where the recommended resources are not available, the trainer will need to think about how they are going to adapt or improvise to meet the need.</td>
<td>Resources</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Trainer Notes

- Previous lesson is going to run over time, but they can anticipate other timing problems and plan for them accordingly. Examples of how timings might change from the LSpec are:
  - What the trainees will have been doing prior to the lesson, e.g. PT session, exam
  - What the trainees are going to be doing after the lesson, e.g. lunch timings, weapons lesson (armoury timings)

**Resources**
The LSpec will only give guidance on the resources required. Once the trainer has done the research on the trainee audience and the time available, they will be in a better position to think about what resources they require and how many are required of each. Where the recommended resources are not available, the trainer will need to think about how they are going to adapt or improvise to meet the need.

- Look forward at this point to studying resource selection in more detail in a later lesson.

**Trainer-led discussion**

- As the students have selected their own subjects for the first TP from a pool of subjects, they will not have detail of KLPs in their LSpec. Instead, these should be developed from the skills analysis they conducted in the previous lesson.
  - So far, the students will have amplified their KLPs with the What/How/Why from skills analysis, and might also have included some memory aids, etc. They now need to think about examples/anecdotes that clarify some aspects of the ‘how’ and ‘why’ and which bring the lesson to life.

- The trainer should confirm that students know how to check information for currency and credibility in their own SME field by asking for some examples of how this would be done.
**PART 2: DEVELOPMENT**

<table>
<thead>
<tr>
<th>KLP No/KLP Statement</th>
<th>Amplification of Material</th>
<th>Media</th>
<th>Trainer Notes</th>
</tr>
</thead>
</table>
| **KLP 3.1.4.1 Select appropriate structure, format and timing** | Conduct a short exercise. - ask students to rate a list of different teaching methods (use Worksheet: Ways of Learning).  
Compare class results with the Learning Pyramid shown below and discuss how this compares with students’ own experiences of training – how much of it was listening to the trainer or reading from a PPT slide? How much do they remember from training? Which are the bits they *do* remember? Why? | Worksheet Ways of Learning  
Flip chart  
Or  
Wipe board | This exercise highlights the importance of trainee participation in learning and can be done in pairs with class feedback at the end.  
Trainer-led discussion  
The Learning Pyramid is a rough adaptation of a theory by Edgar Dale – the Cone of Learning (see References). The Pyramid is often incorrectly attributed to Dale, but students should be made aware that this is generalised theory rather than scientific fact and should draw their own conclusions from their past experiences of learning.  
APPLICATION OF LEARNING requires the students to think about how the Learning Pyramid compares to their own experiences of training.  
Emphasise that trainee-centred does not mean that the trainer does not get involved, rather they become the “guide on the side” rather than the “sage on the stage”, helping trainees to learn for themselves. |
### PART 2: DEVELOPMENT

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<td>Clearly it is not possible to deliver all training as hands-on and trainee-centred. The time and resources available will often make this difficult to achieve and safety may also be an issue when teaching a large group. There needs to be a balance, so that training can be delivered safely and efficiently, but still in a way that trainees can take in and remember. When we plan a lesson, therefore, we need to think about the balance between how much the trainer does and how much the trainees get to do. <strong>Present, Apply, Review</strong> Ask students: <em>Think back to the exercise at the start of the lesson (facing a boot). Remember the different teaching stages that you identified (Tell/show – let them try – correct mistakes)</em> This is a natural structure for teaching a skill and we use a very similar model in Defence as a basis for planning and structuring lessons. Using this model allows us to make sure that we have the right balance between trainer and trainee activity, which in turn maximises the trainees' chances of learning. Introduce the Present, Apply, Review (PAR) model:</td>
<td></td>
<td>Remind the INTRO format.</td>
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<td>PPT</td>
<td>Trainers could develop this stage by building a table similar to the PAR for Skills handout, using examples provided by the students. Examples should include: Tell them how to do it, give a demonstration, give written instructions, show a video, show a finished boot. At this stage, students could consider examples of training that they have done where process or product (or both) was the focus. Good examples for process are drill and weapons handling drills. Good examples for product are weapons cleaning (clean weapon), magazine loading (full magazine)</td>
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<td>Flip chart</td>
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**PART 2: DEVELOPMENT**

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| **PRESENT:**         | First the trainer must PRESENT the information that will make the trainees want to learn. Then the new information must be PRESENTED – in this case, how to lace and tie a high leg boot. Ask students: “How many different ways could you PRESENT this new information?” Discuss which methods would be best and why. Highlight that methods like Demonstration usually focus on getting the PROCESS exactly right, while methods like showing the finished boot focus on getting the final PRODUCT right. As trainers, we need to decide whether we want the skill performed in a particular way, or whether we are happy for the trainee to find their own way as long as the finished product is correct. This will impact on how we decide to PRESENT our new information – often it’s a combination of both. Ask students: What else will impact on the method(s) we choose for PRESENT?  
  • Audience (e.g. how much experience, confidence, safety)  
  • Resources (real thing or simulated)  
  • Time | Flip-chart  
  Or  
  Wipe board  
  Or  
  Smart Board in Flip chart mode | APPLICATION OF LEARNING requires students to identify examples of teaching methods and factors that affect which is chosen in a particular case. Briefly REVIEW Principles of Adult Learning and ARCS motivation model. |  
| | | (Add to the PAR table) | APPLICATION OF LEARNING requires students to identify examples of teaching methods and factors that might affect their choices  
  Again, audience, safety, resources and time should be considered. |
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| APPLY                | The importance of the APPLY stage in a lesson cannot be overstated. As we discussed in the earlier lesson on the Principles of Adult Learning, trainees need to:  
• Have the opportunity to use their learning immediately; this is how they make sense of it in their own minds.  
• Have the opportunity to succeed in learning; this gives them confidence and satisfaction  
Ask students: “How many different ways could you get trainees to apply your lesson on the high leg boot?”  
Students may struggle to find different examples – the following options should be discussed:  
• Imitate the trainer in stages and then practice by themselves (as in EDIP)  
• Practice by themselves while trainer observes  
• Practice in pairs and critique each other (two medals and a mission)  
• Practice in pairs, one directs the other (Pilot/Navigator)  
Ask students: What will affect your choice of method this time?  
REVIEW | APPLICATION OF LEARNING requires students to identify examples of teaching methods and factors that might affect their choices.  
Examples should include INTRO, revision sessions, Q+A, trainee summaries, tests  
(Add to the PAR table)  
Audience, time, resources |
### PART 2: DEVELOPMENT

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<td>It can be used at any stage during the lesson but is especially important at the beginning and the end of a topic or lesson.</td>
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<td>Ask students: &quot;How many ways can you think of to REVIEW skills lesson content: at the start of a lesson? at the end of a lesson? at a point during the lesson?&quot;</td>
<td></td>
<td>APPLICATION OF LEARNING requires students to select a combination of teaching methods to meet the needs of the scenario and explain their choices.</td>
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<td></td>
<td>Ask students: &quot;What would affect your choice of method?&quot;</td>
<td>PAR for Skills handout</td>
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<td></td>
<td><strong>Timings</strong></td>
<td>Or Table developed on flip-chart, etc.</td>
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<td>Explain the recommended balance of timings for PAR:</td>
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<td>• 30% of the time should be used to PRESENT (includes INTRO)</td>
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<td>• 60% should be used to APPLY</td>
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<td></td>
<td>• 10% should be spent on REVIEW</td>
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<td>Discuss the flexibility of this guidance and give guidelines on what will be acceptable during TP assessment.</td>
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| **KLP 3.1.4.2 Identify suitable formats for lesson plans** | **Lesson plans**  
Ask students: What is the difference between an LSpec and a lesson plan?  
Establish that an LSpec is a standardised document which is used by all training establishments and trainers for that particular lesson. A lesson plan is specific to a trainer and to a particular school because it:  
• Plans the timings of a lesson according to the realities of the situation  
• Plans the resources according to what is available  
• Plans the balance between trainer and trainee activity (Present, Apply, Review)  
• Plans teaching methods which suit the strengths of the trainer  
Highlight that a lesson plan (the “how”) should be suitable for someone else to use if the trainer is unable to teach  
Provide students with a copy of the template lesson plan and discuss the different sections.  
• Objective – focuses the trainer on what is to be achieved by the end of the lesson (part of the INTRO)  
• Health and Safety - ensures safety in training (Code of Practice for Trainers)  
• Timings – more detailed than LSpec and realistic for the individual situation.  
• Trainer/trainee activity – lets the trainer plan the balance of trainer/trainee activity  
• Resources – more detailed than LSpec and realistic for the individual situation  
• Assessment of learning – how the trainer will check whether any learning has happened  
• Differentiation – lets the trainer plan how to support individual trainee/group needs | **Media**  
Template lesson plan handout  
**Important note:** The trainer is to explain that the plan should not be a script but is a timeline and basic storyboard of “how” the lesson is going to look and the planned activities. This should then be supplemented with lesson notes/script (the “what”) in a format that suits the individual delivering e.g. mind map.  
**Briefly note the risk assessment section on the LSpec and explain that H&S in training will be covered in more detail later**  
**Emphasise that if the Trainee activity column is largely empty or just has Q+A in most sections, trainees are not likely to learn much.**  
**Look forward to examining ways of assessing learning later in the course** | **Trainer Notes** |
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<th>Amplification of Material</th>
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<tr>
<td><strong>Skills Lesson</strong></td>
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<td><strong>Demonstration</strong></td>
<td>Finally, explain that many training establishments have standardised lesson plans, which are useful as a starting point, but are generic to every course and therefore don’t allow the trainer to plan for their specific trainees/groups. Suggest that where this is the case, as soon as they are confident students should seek permission to plan their own lessons and discuss these with their supervisor. Finally, look forward to using the lesson plan template to plan the first TP. This should last approximately 30 minutes and be balanced 30% Present, 60% Apply and 10% Review. The format should be relatively simple and suit the type of skill being taught and the audience scenario. The main elements of the lesson format should be clearly emphasised, i.e. - A REVIEW of any previous experience the students might have. - PRESENT o INTRO – ensure a clear explanation of why the skill is taught and what students will be using it for. o Equipment check and safety points o A demonstration by the trainer of the skill. - APPLY o Practice session by the trainees o Enhance the practice with pairs working (e.g. Pilot/navigator) or peer assessment</td>
<td>Students should be made aware at this point that the lesson plan will be formatively assessed and marked as part of TP1 and TP 2 and will be summatively assessed and marked as part of TP 3.</td>
<td>Brief the students on the scenario before beginning the demonstration e.g. &quot;You are a group of Phase 1 trainees in the fourth week of training, this is your first lesson on xxxx&quot; Briefly identify to the students when the lesson is moving from one phase to the next. Trainer should invite questions from students throughout the lesson Alternatively, the trainer can conduct a simple skills demonstration and allow the students to decide how best to present, apply and review the skill. Their choices should be reviewed and discussed as well as alternatives explored for differing audience scenarios.</td>
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<td>REVIEW</td>
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<td>o Remind of the lesson objective</td>
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<td>o Self-assessment by the trainees (e.g. rate themselves as novice, amateur, ninja, etc.)</td>
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<td></td>
<td>o Summary of key points by the trainer</td>
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<td>o Encouragement and look forward</td>
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At the end of the demonstration, the trainer should spend about 15 minutes going through the format on a wipe board or flip chart and asking students to identify what happened and what stage it was. Ask for feedback on what worked well and what might have improved the lesson.
PART 3: CONSOLIDATION

<table>
<thead>
<tr>
<th>Serial</th>
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<th>Guidance</th>
<th>Media</th>
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</table>
| 1      | Summary        | **Summarise the lesson and emphasise the importance of:**  
          |               | • Planning for audience  
          |               | • Planning for realities of time and resources  
          |               | • Planning maximum trainee activity  
          |               | Link back to the VSC model and note:  
          |               | **Support** – know your audience and their needs, plan to support them  
          |               | **Challenge** – challenge trainees in lessons and give them the opportunity to succeed; don’t do all the work yourself  
          |               | Remind that safety comes into all factors |
| 2      | Objectives     | Identify learning outcomes  
          |               | Identify trainee start states  
          |               | Establish boundaries and constraints  
          |               | Develop a lesson plan  
          |               | PPT |
| 3      | Assessment of  | **Formative assessment is conducted through APPLICATION OF LEARNING exercises and later through formative assessment of TP 1 lesson plan**  
          | Enabling objective(s) |               | Lesson plans are also used as evidence in the L3 portfolio and should be copied for this purpose. |
| 4      | Reference(s)   | Lesson plan template  
          |               | Present Apply Review information  
          |               | If the unit has produced Train the Trainer supporting material, this should also be referenced |
| 5      | Link to next lesson | **The trainer is to provide an appropriate link to the next lesson and/or test**  
          |               | Any questions?  
          |               | Trainer to invite student questions |

127 The media indicated is a guideline. The trainer may use media of their choice to display the key points, e.g. PPT/Whiteboard/Flip Chart/Mag Aid.
1.4 Element 3: Delivery

Policy Sponsor: TESRRRTESRR, CDP

This Guidance outlines the Defence approach that allows training specialists to adopt a structured, methodical approach to the delivery of the training activity. It sets out the main activities that may be used to deliver training, in order to provide the endorsed training solution. These deliver the training effect and form part of the overall Training System.

The DSAT process

1. This Section provides Guidance on the processes and outputs associated with the delivery of the training activity, which is Element 3 of the DSAT process, as illustrated in Figure 1.

128 Training, Education, Skills, Recruitment and Resettlement, part of Chief of Defence People, 6th Floor, MoD Main Building.
2. Training does not start and finish on a training course. An agile force is one whose people learn continuously, from experience and from each other, as well as from training courses. Learning in the workplace is just as important as learning on a course and still requires the support of qualified trainers. Whether in the workplace or a training establishment, while the roles and responsibilities of the trainer may vary, the underlying principles and standards for the delivery of Defence training remain the same. Training delivery is the process conducted by the Training Provider that enables and allows trainers to deliver training to trainees. It is the outputs that ensure trainers are trained, training activities are piloted, programmed and resourced, training is prepared, training deficiencies are managed, risks are assessed and trainees are appropriately cared for. These delivery activities (as shown in Figure 2) are:

a. **DTC – 3.1.** Defence must ensure that its trainers inspire, motivate and challenge trainees in order to get the very best from them. To be fully effective, trainers fulfil the Roles of the specialist trainer and that of leader, including: understanding the key attributes of a trainer; effective delivery techniques; the realities of training; coaching; and the use of technology. The DTC will deliver trainers that are fit for purpose and whose training and development are linked to the Defence Trainer Competency Framework (DTCF) which is at Annex A. Trainers must, of course, also be fully SQEP in the subject matter they are delivering. If training delivery is outsourced, any trainer requirements must be specified in the contract. This Section should be read in conjunction with JSP 822, Part 1, Chapter 4, Section 4.1. Annexes B to H of this Section describe Guidance for the various Defence Trainer types\(^{129}\) which are:

(1) Defence Trainer (Phase 1 or 2).

(2) Defence Trainer (Phase 3).

(3) Defence Workplace Trainer.

(4) Defence Higher Education Trainer.

(5) Defence Trainer Supervisor.

(6) Defence Trainer Manager.

b. **Preparing training – 3.2.** Preparing training ensures that the Training Provider, and specifically the trainer, has completed preparation for the delivery of the lesson and/or collective training event. This includes the use of the LSpec and ASpec to generate lesson or event plans and assessments suitable to the training environment. Consideration should also be given to the development of a remedial training strategy and the requirements associated with deployed collective trainer training.

c. **Programming, scheduling and resourcing of training – 3.3.** This activity ensures that the key requirements for the successful programming and scheduling of training, as well as factors that affect resourcing (such as human, infrastructure and environment), are taken into consideration.

d. **Piloting of training activity – 3.4.** Piloting of training activities is strongly recommended to help identify any issues or problems early. The purpose is not only to prove what works but also to highlight problem areas so they can be revised as necessary. Checking the training activity in this manner will ensure it is appropriate to the need, cost-effective, safe and accountable and, thus, meets the requirement. Where piloting is not possible, there should be a concerted effort to assure the first few courses that run.

\(^{129}\) The role of the Commanding Officer of a Training Establishment is also included as it forms part of the DTC Direction and has key care and welfare responsibilities.
e. **Management of Training Deficiency – 3.5.** This activity shows the stakeholders where training shortfalls exist or where deficiencies have arisen owing to either an inability to train certain TOs/CTOs or a training failure that has been picked up through the assurance process. Such deficiencies would suggest that trainees may not hold the competences that the training was designed to deliver. A Training Deficiency is not the same as the Residual Training Gap. The Residual Training Gap is agreed by the TRA early on in the DSAT process and is articulated in the RTGS.

3. **Responsibility.** It is expected that the Training Provider will take the lead on the DSAT activities, processes and outputs required to be completed during Element 3 (Delivery). The Training Provider will also be expected to ensure that those activities that it deems critical to the development of the Training System are conducted; most notably the production, on behalf of the TDA, of the SOTT which when endorsed, sets the training task to be delivered. The Training Provider is ultimately responsible to the TDA, the TRA and Customer for the work conducted during this Element.

**MTS**

4. **SOTT – 5.10.** Once accepted by the appropriate governance body (such as the CEB), the SOTR is used as the source document to develop the SOTT. The purpose of the SOTT is to allow the Training Provider to take the agreed output-based requirement and develop it into a deliverable training solution for the following year. In addition to the information already contained in the SOTR, the SOTT should contain, as a minimum:

a. The training activity profile (number of courses/exercises etc with start and finish dates).

b. The total trainee input number and the disaggregated (the number of trainees per training activity) number by training activity.

5. The SOTT may eventually differ from the SOTR. In-year changes to the SOTT should be managed by the CEB but an audit trail is to be maintained by both the CEB and the SOTR Coordination Organisation to show why differences have occurred. Where differences occur within a contractual arrangement, penalties may apply. Although not an exhaustive list, the following issues may result in changes to the SOTT from what was originally endorsed in the SOTR:

a. Funding bid when the SOTR was agreed is not successful.

b. Impact of any Urgent Operational Requirements (UORs).

c. Changes to the Role/Team PS.

d. Results of InVal.

e. Any potential long-term gapping of trainers.

f. Impact of in-year funding constraints.

g. Recruiting targets not being met.

h. Impact of operational tempo.

i. Historic failure rates in determining input to achieve output SOTR.
DELIVERY ACTIVITIES

DTC

6. **DTC – 3.1.** The DTC will deliver Defence Trainers that are fit for purpose. Trainers are not only the focus for teaching knowledge and skills but also for inspiring, encouraging, supporting and challenging trainees, through strong leadership, role modelling and coaching. Well motivated trainees become independent learners, who continue to regulate their learning wherever they are. Whatever their ability level, trainees require regular feedback and support to help them assess their knowledge and skills so that they can learn to identify and set their own goals for further professional development.

7. **Defence Trainer attributes.** Defence Trainers need to be able to inspire, motivate and challenge trainees, understand their learning needs and expectations, and be able to draw on the right tools and techniques to get the very best from them. To be fully effective, trainers should therefore understand and fulfil both the Roles of the specialist trainer and that of leader, which include:

   a. **Role modelling.** Through the adoption and promotion of the Service core values, trainers lay the foundations for the behaviours that build team cohesion and underpin operational effectiveness. Role modelling is therefore a core responsibility.

   b. **Facilitating inclusive learning.** Trainers should create an inclusive learning environment where all trainees have the opportunity to learn and reach their full potential. Trainees are trained to function as part of a team but they also need to be regarded as individuals in order to unlock and maximise their potential. Only by treating them as individuals, based on their talents and knowledge, will they reach higher levels of achievement. Good trainers are able to present information in the most appropriate way to suit the needs of the trainees and may use both directive and facilitative techniques to develop individual strengths, while ensuring that the needs of the group, or team, are considered and the overall training outcome is achieved. Trainers will need a sound understanding of learning theory and a broad range of skills including the use of modern teaching techniques, learning technologies and coaching.

   c. **Assessment of learning.** Assessment is an essential part of training delivery and trainers are often asked to make critical decisions regarding trainees’ progress through training and subsequent qualification for employment. The proper conduct of assessment has implications for training time, resources and effective capability. Good trainers are able to administer assessments in training in a fair, valid and reliable manner in accordance with the AStrat and ASpecs provided.

   d. **Care and Welfare.** Trainee welfare has a big impact on how successful trainees are in training. Trainers need to create an environment of mutual support and respect where trainees feel safe and know that their contributions are recognised and valued. Commanders have specific responsibilities relating to Care and Welfare; these are detailed in Part 1 of this JSP.

Delivering effective training

8. **Defence Trainer training courses** provide new trainers with an understanding of how trainees learn and a range of tools and techniques to employ. Trainers should also be aware of the unique nature of the training environment and the codes and boundaries which must be applied to ensure that training remains safe and effective for all.

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130 Detail regarding the DTC training interventions is contained in JSP 822, Part 1, Chapter 1, Section 4.1. Information relating to who should attend which training interventions and the course dates is published annually in the DCTS training courses DIN.

131 Trainers can carry out many roles be they in training establishments, the workplace, higher education delivery and mentoring.
9. **Realities of training.** Trainers will be required to deal with a whole range of issues that might affect the length of time available to teach a lesson (e.g. if trainees finish a previous lesson/event later than planned). KLPs may need to be covered again if, for example, some trainees have missed a previous lesson/event. In all cases, trainers should understand the following when adapting training delivery to meet the realities of training:

a. All KLPs should be delivered in accordance with the LSpec. Where it has been necessary to adapt or miss out KLPs, trainers must inform their DTS, DTM or Chain of Command, preferably with suggestions as to how these can be made up at a later date. If the KLPs cannot be delivered then a deficiency report should be raised.

b. Assessments should be delivered in accordance with the ASpec. If the assessment cannot be delivered in the time available, then the DTS, DTM or Chain of Command should be informed and the assessment rescheduled for a later date.

10. **Evidence-based approach.** Evidence-based teaching (EBT) has been firmly embedded into the Defence training environment. It has proved to be highly effective in improving direct learning outcomes (achieving TOs/CTOs) and indirect outcomes (e.g. encouraging independent learning, developing social skills, promoting the desire to learn). Detailed guidance on a range of EBT methods is given to trainers during their respective DTC course and is available to them on the Defence Trainer DLE.

11. **Coaching.** Coaching in the training delivery context has a similar aim to coaching in the workplace. It is about unlocking a trainee's potential in order to improve and maximise performance. It is more about helping trainees learn for themselves rather than merely teaching them. Coaching techniques form an integral part of the trainer's toolbox. Everything should be geared towards ensuring that trainees are successful. Often that simply means responding positively and constructively to their efforts and setting new challenges for them. There will also be times when a more focused individual approach is needed (e.g. to develop a trainee who is struggling, or to motivate a trainee who is finding training too easy). Coaching techniques are covered in certain DTC courses.

12. Mentoring has been deliberately omitted in this section which deals with training delivery as coaching is the main method used to develop trainees. There is no single definition of Mentoring in Defence as the word has different meanings depending on the context. For example, there are Defence workplace mentoring schemes where a trusted colleague shares knowledge and experience over a period of time to assist a new colleague. Additionally, there are mentoring schemes to assist foreign forces to manage their own security. Each has different aims. Where mentoring is mentioned in this JSP, it is referring primarily to the Role of the Defence Trainer Supervisor (DTS) who acts as a mentor for Trainers. In the DTS context the definition of Mentoring is: ‘where a trusted colleague shares knowledge and experience over a period of time to assist a new colleague’.

13. **TEL.** Technology provides trainers with a wide range of different tools that can help to present new Media, increase trainee interaction and improve trainee engagement by making the training more personalised. While the use of learning technology can be a very powerful training tool in the right circumstances, it should only ever be used where it enhances learning and never just for the sake of it. TEL is a particularly fast-developing area, which now covers a much broader and more complex range of technologies, meaning that there are an increasing number of ways in which technology is being exploited across Defence. Learning technology is currently used to support delivery in the classroom, to deliver training remotely, to provide realism in training and to increase trainee engagement. Trainers must be able to employ common technology in their lessons, and may be required to support trainees using technology in other contexts, e.g. e-tutoring, Computer Aided Instruction (CAI), Computer Based Training (CBT), or use of simulators.

14. Trainers should be introduced to the learning technologies available in their unit during the unit induction programme. Trainers should never discount the use of a learning technology
because they do not know how to use it, but instead they should watch and learn from other Defence Trainers or ask for training from their DTS and/or chain of command. Advice and guidance on developing downloadable training video can be obtained from the Department for Technology Enhanced Learning (DTEL) at the Defence Academy.

**Preparing training**

15. **Preparing training – 3.2.** The effectiveness of training delivery will be measured by the Training Provider and appropriate governance body according to whether the intended outcomes (the TOs/CTOs) have been achieved successfully. This is determined through the formal assessment process, but there will also be other, indirect outcomes of training (e.g. motivation to learn and creating independent learners) which will need to be considered when planning and preparing effective training. These are not as easy to measure, but they are important if trainees are to perform to the best of their ability. To ensure that all the desired outcomes are achieved when preparing training, the following principles of training delivery\(^\text{132}\) should be applied:

a. **Trainer as role model:**

   (1) Training is underpinned by leadership; therefore one of the key principles of Defence training delivery is that Defence Trainers must act as role models for their trainees. Effective learning relies upon trust: trainees must trust that their trainers are truthful, equable and consistent in what they say and how they behave. Trainees, and in particular recruits, will often emulate their trainers' behaviours either consciously or sub-consciously, and can pick up good or bad attitudes and behaviours in this way. Trainers, therefore, should be models of integrity and good practice from which their trainees can learn.

   (2) The DTCF sets out the requirement for “trainees’ attitudes and behaviours to be shaped by the trainer’s example” in Competency Group 1. Competency 1.1 links role modelling to single Service Core Values and standards, behaviour, bearing and dress and showing respect for others, while other trainer behaviours relevant to role modelling are identified within the remaining competencies for that group, e.g. leading trainees, actively promoting Diversity and Inclusion, maintaining discipline, fostering a safe and supportive environment to ensure trainee welfare.

   (3) While single Service Core Values and Standards provide the basis for role modelling, the Defence Code of Practice for Trainers at Annex K gives guidance on the codes and boundaries which must be applied to ensure that training remains safe and effective for all. This document is therefore an important reference for training staff and should be made widely accessible in training establishments. Single Services may also have their own codes of practice in training, which support and enhance the direction given by Defence.

b. **Learner-centred training:**

   (1) Military trainees are adults, with adult learning needs and aspirations\(^\text{133}\). Trainers need to deliver training in a way that recognises trainees’ life experiences and allows them to take ownership of their own learning\(^\text{134}\). In this way, they are motivated to learn and become independent and ‘agile’ learners.

   (2) Learner-centred training means getting trainees to actively take part in their learning, rather than passively receiving instruction. It means teaching trainees how

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\(^{132}\) Further advice on the trainer’s responsibilities for the preparation and delivery of training can be sought from the Defence Centre of Training Support (DCTS), RAF Halton. The topic is also covered in DTC training.

\(^{133}\) The exception to this is young recruits, e.g. those at the Army Foundation and Technical Foundation Colleges.

\(^{134}\) The art or science of teaching adults is often termed ‘andragogy’ (Greek for man-leading) as opposed to pedagogy (child-leading) which is a more traditional trainer led approach to training.
to think and solve problems by drawing on their past experiences, using common sense and logic to research and evaluate evidence, then reflecting on their findings to reach conclusions. Learner-centred training uses active training techniques and lets trainees learn from each other and from their own mistakes. It promotes deeper learning which is meaningful and memorable, rather than surface learning which is easily forgotten.

(3) The DTCF sets out the requirement for “learning events to be learner-centric and structured to the learning process,” in Competency Group 2 and the requirement that “individuals are actively engaged in the learning process” in Competency Group 4. Application of the [Present, Apply, Review] (PAR\textsuperscript{135}) model and the ARCS\textsuperscript{136} Motivation model are identified in Competency 2.1 as appropriate for the promotion of active learning. Competency 4.1 identifies the need for trainers to manage both individual and group needs during learning events.

(4) The PAR and ARCS models were chosen by Defence as the easiest to understand and employ. They should be used as the basis for planning and delivering all lessons. Trainers should reflect regularly on how learner-centred their lessons are and share good practice where a particular learner-centred approach has worked well (or even if it has not). They should also seek feedback from their trainees on which methods and techniques are most effective from their point of view.

c. Self-regulated learning:

(1) Making training learner-centred also encourages trainees to self-regulate their learning, i.e., they monitor their own knowledge and skills and make decisions on how they can progress. Trainees who self-regulate their learning are motivated to learn through-life and are confident of their ability to learn, and so they are more likely to take action to remain competent and current in their job role. Trainers can teach trainees to self-regulate by prompting them to set and reflect on individual goals, using feedback to then identify and review what they did to achieve the goal. Concentrating more on what the trainee did (or did not do), rather than the actual outcome, helps to develop these self-monitoring capabilities. Learning from mistakes is also a very effective tool in self-regulated learning and trainees need to be given the freedom to make mistakes where safety, time and resources permit.

(2) The DTCF sets out the requirement for “learning events to meet both organisational and individual goals” in Competency Group 2 and the requirement for trainees to “set realistic personal goals based on self-assessment and constructive feedback” in Competency Group 4. Competency 2.2 requires the trainer to apply the 5 components\textsuperscript{137} of the self-regulated learning process and Competency 4.2 highlights the importance of goal setting, feedback and learner self-reflection. Trainers should aim to use these basic coaching techniques both when delivering lessons and when working with individual trainees.

d. Inclusion in training:

(1) Trainee performance is directly related to trainee potential and to any barriers which prevent them from performing effectively. All trainers will be required to work with a mix of trainees who may be affected by one or more of these barriers. Failure to address this can have a significant impact on trainee motivation, performance and retention. Trainers must therefore ensure that everyone has the


\textsuperscript{136} Attention, Relevance, Confidence, Satisfaction.

\textsuperscript{137} Readiness, Resourcefulness, Resilience, Reflectiveness, Responsibility.
same opportunity to learn, develop and succeed. That means preventing barriers from arising where possible and helping individuals to deal with barriers when they do arise. This is known as inclusion in training.

(2) The DTCF sets out the requirement for learning events to be “aligned with 
trainee motivation” and for resources to “actively engage the learner” in Competency 
Group 2. The requirement for trainees to “feel supported and able to relate their 
learning and development goals” and that their “achievement is used as a 
motivational tool” is set out in Competency Group 4. All the competencies in Group 
2 and Competency 4.1 and 4.2 highlight the importance of considering both group 
and individual needs when planning, preparing and facilitating learning.

(3) Lessons should be planned to provide both support and challenge for 
trainees, so that all ability levels can achieve progress. Trainers must be able to 
support trainees in dealing with a range of different barriers to learning, including 
those linked to welfare, discipline and specific learning needs. Where the barrier is 
linked to trainee attitude, e.g. confidence, motivation or stress, the trainer will use 
coaching techniques to assist the trainee in dealing with this.

e. Technology in training:

(1) Learning technology can also help the promotion of self-regulated learning 
by providing easy access to learning resources, for example through a Virtual 
Learning Environment (VLE) such as the DLE. Giving trainees access to learning 
resources outside of the classroom promotes independent learning skills and can 
encourage deeper study of a subject. Where in the past trainers would have 
encouraged further reading by providing trainees with handouts and references to 
text books, technology now opens up the possibilities and provides a much wider 
range of resources that are often more engaging and accessible.

(2) Learning technology offers significant benefits to training delivery; however, 
in all cases the principle of appropriateness must be applied. The DTCF sets out 
the requirement for the trainer to identify “appropriate opportunities for the use of 
technology enhanced learning resources” in Competency 2.3 and the requirement 
to draw on “a range of appropriate delivery methods and media, including new and 
emerging technologies” in Competency 4.1.

(3) Advice and guidance on developing learning technology can be obtained 
from the Department for Technology Enhanced Learning (DTEL) at the Defence 
Academy. For example:

(a) Video capture. Using hand-held or other mobile devices to capture 
training activity on video can provide enormous support to constructive 
feedback. Often trainees remember their completion of a task in a very 
different way to their trainer and consequently find it hard to relate to 
observations regarding mistakes that have been made. Viewing their 
performance on video reinforces feedback and often provides valuable 
clarification which may be difficult for the trainer to express in words. 
Sample videos of tasks being completed correctly could be compiled into a 
Vodcast to provide a ready reference system that trainees can use to refresh 
their learning.

(b) Virtual or part-task trainers. Where resources are limited, or where 
safety or equipment care is a limiting factor, the use of virtual or part-task 
trainers can provide a valuable resource for practising specific tasks or parts 
of tasks. Virtual task trainers provide a 3-dimensional representation of a 
piece (or part) of equipment on a touch screen, which the trainee can
interact with. Part-task trainers may also be mechanical representations of a part of the equipment which allow the trainee to carry out the required actions or sequences for a particular task.

(c) **Electronic Performance Support Systems (EPSS).** In the past, technical operators would have been supported by technical trade manuals. Today's technology allows these manuals to be held on mobile devices and delivered using a combination of video, images, audio and text. This allows trainees to access a large amount of technical information and aide-memoires on a pocket-sized device. Where EPSS is not readily available for a particular task, downloadable video guides can be produced.

(d) **Augmented reality.** This uses a combination of a person’s real world view and a computer generated virtual scene that augments the world with additional information. It has the advantage that training can be provided at the point of need, without the need for a tutor to be present and can take place on real-life equipment. The development of bespoke augmented reality systems can be very expensive, but there are commercial off-the-shelf solutions that can be adapted to enhance existing training. Reference texts can be augmented with videos that play when a smartphone or tablet device is pointed at certain trigger images (e.g. QR codes); this allows complex ideas to be explained in a different way to the text, aiding learning understanding. These types of systems can often be free to deploy.

f. **Standardising training:**

(1) In order to ensure that training is analysed, designed, delivered and assured to a set standard, Defence uses the Defence Systems Approach to Training. A great deal of work goes into the design and development of training to make sure that it is relevant, realistic and prepares Defence personnel properly for the jobs they have to do. Well-designed training, however, can still fail if it is not delivered in the way it was intended. Training deliverers must therefore comply with the specifications of the training design when they deliver their lessons. The DTCF sets out the requirement for trainers to employ “relevant DSAT course documentation to identify desired learning outcomes and plan collective learning events” in Competency 2.1 and to adapt “delivery according to trainee response while still achieving planned outcomes” in Competency 4.1. Trainers must ensure the overall objectives or the lesson are met and that the relevant Learning Specifications (LSpecs) and Assessment Specifications (ASpecs) are adhered to.

(2) Course documentation (specifically the LSpec, AStrat and ASpec) is the trainer’s crucial link to the DSAT process. It provides the authority to deliver standardised training and forms the basis for the production of course programmes, lesson plans and assessments. Training must be delivered in accordance with the relevant specifications and so if any part of the course documentation is not available for a specific course or lesson, trainers should inform the course manager immediately. Examples of documentation templates can be found in the JSP 822, Part 2, Chapter 1, Section 1.3 and this Section. Trainers or trainees may highlight issues with training content, for example, pertaining to currency or relevance. In this case, it is important to use the DSAT system correctly to highlight shortcomings. Alterations to Training Objectives (TO), Enabling Objectives (EO) or Key Learning Points (KLPs) within the course documentation can only be achieved by following local course change processes, which must include the Training Delivery Authority. Trainers must be absolutely clear on their boundaries when adjusting lesson content and should be fully briefed on the process for requesting updates or amendments to course documentation.
16. **LSpec.** LSpecs contain the information the trainer needs to deliver training, including the structure and sequence of training (as detailed in the Learning Scalar). The main purpose of the LSpec is to control what is taught and how it is taught. The trainer should teach all of the KLPs as specified in the LSpec. If there is an issue with the KLPs (e.g. if they are no longer current or relevant) then the DTS, DTM or Chain of Command should be informed. The benefits of using the LSpec include:

   a. Ensuring the material taught is based on the specified TOs/CTOs.

   b. Providing details of suitable Methods & Media, so the material is delivered in an effective manner.

   c. Helping ensure consistency between trainers and different training activities.

   d. Saving preparation time.

17. The manner in which the KLPs are delivered is determined to some degree by the LSpec, but there is flexibility for the trainer to impart their own style and experience. If it seems that the LSpec is too prescriptive and is limiting the trainer’s ability to deliver the training effectively, then this should be discussed with the DTS, DTM or Chain of Command.

18. **Lesson/event planning – 3.2.1.** Lesson/event planning is an essential part of the training delivery process. A good lesson, or collective training event, plan considers all the needs and expectations of the training audience (1.2.2), prepares for any ‘what ifs’ and enables the trainer to feel confident that nothing has been left to chance. Lesson/event plans should be based on the LSpec. They are generally created by the trainer but can be pre-produced and/or mandated for some lessons/events (e.g. to ensure uniformity and consistency or where legislation or safety is a key element). Trainers may be provided with standard lesson/event plans, but unless these are specifically mandated, the aim should be to develop personal versions as soon as confidence with the subject matter and training audience (1.2.2) is gained. A suggested Lesson/Event Plan format is at Annex L.

19. One of the key benefits of planning learning is that it encourages the trainer to think about any potential barriers to learning and to plan how to overcome these. In addition to the information taken from the LSpec, lesson plans may also include information on:

   a. **Timings.** A key part of the skill is in planning timings. Time is at a premium in most training environments and a lesson/event which runs over time or which fails to deliver all of the planned KLPs in the time allowed is likely to have a significant impact on other parts of the schedule.

   b. **The environment.** Clearly the environment can have an impact on learning and, for the trainer, this is even more relevant, given that the environment could vary from a hi-tech simulation suite to a shell-scrapel in a forest on exercise. Whilst it may not always be possible to choose the best environment in which to conduct training, good planning will ensure that the potential barriers presented by less than perfect surroundings are reduced or removed. Lesson/event plans should contain sufficient information on how the environment will be managed, including the safety brief and risk assessment.

   c. **Motivation.** A lesson/event where motivation has not been considered and planned for is unlikely to be very successful. Good trainers consider their training audience (1.2.2) and plan approaches which will motivate trainees, both as individuals and teams. Awareness of possible demotivators is important as is how to remove or avoid them. Table 1 shows examples of both motivators and demotivators that might be relevant to military training whatever the training environment.
Motivators | Demotivators
---|---
Recognition of achievement/progress | Repetition of previous training
Pride in self and/or team/unit | Fear of failure (low self-belief)
Comparison with peers | Poor relationship with trainers
Previous high performance | Previous poor performance/assessment
Training has relevance for trainee | Training seems irrelevant or pointless
Training is challenging but achievable | Training is too difficult or too easy
Delivery Methods are engaging/strong trainer role model | Delivery Methods are overly trainer-centred

Table 1. Training Motivators and Demotivators

d. **Trainee interaction.** Whilst some of the lessons/events in training need a more directed delivery approach, it is the learner-centred approach that ultimately helps the trainee to develop confidence and competence. Facilitation of learning means the trainer will relinquish much of the power but none of the overall control. A good trainer should be able to let the trainees direct the pace and content according to their abilities while ensuring that the KLPs are still drawn out.

e. **Confirmation of learning outcomes.** It is not enough just to deliver the lesson/event according to the LSpec; for training to be effective the trainer also needs to know that learning has actually taken place. It is therefore important to plan not only the activities but the Methods of confirming learning outcomes. This can be achieved by question and answer sessions and observing individual/team activities or by quizzes, tests or trainee summaries.

20. **Lesson/event planning considerations for the workplace environment – 3.2.1.** Whilst the generic guidance above on lesson/event planning is relevant to all training environments, there are some special considerations for training that is undertaken in the workplace. Lesson/event planning for workplace training is just as essential a part of the training delivery process. Depending on the delivery Method to be used, a workplace lesson and/or event plan similar to those used in a more structured training environment may be appropriate. Where TOs/CTOs are delivered over a longer period of time in-role, the trainer will need to be much more flexible in their approach and the planning process should reflect this. The use of LSpecs and lesson/event plans remains the same.

21. Where workbooks or portfolios are used to stipulate the training to be delivered, planning may focus more on identifying and organising opportunities for learning to take place in the work environment. In this case, the trainer may wish to plan a programme of workplace Tasks that will present the trainee with the opportunity to practise a Skill under supervision, or to learn new Knowledge and Skills through workplace experience. The Standards to be achieved should be clearly stated and the trainer should know the process for assessing and recording completion of the TOs/CTOs. The workplace environment may be very different from a more structured training environment and will have its own advantages and disadvantages. Potential barriers to workplace learning include:

a. **Distractions.** Learning in the workplace is a much more informal environment and the trainer may have less control over distractions like background noise and interruptions. While this may create a much more realistic context for the trainee, it may also hamper the delivery of new information and could impact on safety. Good planning will ensure that the risks are properly assessed and, where it is likely that noise or other distractions will impact on learning, the plan should contain information on how this should be managed.

b. **Trainee interaction.** Workplace training is ideal for a learner-centric approach to training and ultimately helps the trainee to develop confidence and competence. In order to facilitate learning, the trainer must be prepared to step back and allow the trainee to learn from experience, even if this means allowing them to make mistakes where safety permits.
c. **Confirmation of learning outcomes.** For workplace training to be properly effective, the trainer should plan not only the tasks and activities to be conducted but also the Method of confirmation to be used, whether this is just through question and answer session, observing completion of a task, summarising the KLPs at the end of a task or allowing the trainees to summarise themselves what has been learned.

### Assessing learning

22. **Assessment of learning – 3.2.2.** Assessment is an essential aspect of any training which must be properly understood and applied. Assessment requires the trainer to determine whether learning has occurred which requires making a judgement on trainee Performance and progress, then to decide whether the trainee is sufficiently competent in a particular Role or Task to be qualified for employment and/or work with or without supervision. The proper conduct of assessment in training can have a major impact on training time and resources, but ultimately will contribute directly to Defence outputs. Trainers should be able to administer assessments in training in a fair, valid and reliable manner in accordance with the AStrat and ASpecs. This is achieved through standardisation of conduct and moderation of marking:

a. **Standardisation.** Standardisation is achieved by adhering to the direction given in the AStrat and ASpecs. If an assessment is conducted using the same instructions every time, all trainees should receive exactly the same assessment, regardless of when, where and by whom the assessment is conducted.

b. **Moderation.** Moderation of marking can also help to ensure that the marking of assessments by different trainers is equitable and fair. In this case, a random sample of marked assessments is marked again by another trainer without first seeing the original score or grades awarded. The resulting scores are then compared to see if they agree. Where scores do not agree, trainers should consult with other trainers, and as a team, identify where the marking system is flawed and adjust scores/grades accordingly. Any problems with the marking criteria should be highlighted to the DTS, DTM or Chain of Command.

23. **AStrat.** The AStrat is useful as it ensures that the assessments are reliable, valid and administered correctly. An AStrat will give clear direction on:

a. Summative assessment of each TO/CTO.

b. Formative assessment of trainee progress.

c. How grades should be assigned and interpreted.

d. Action to be taken upon trainee failure of a (valid) assessment.

e. A policy for determining pass or failure.

f. A policy for the maintenance of assessment records.

24. **ASpec.** While the AStrat gives an overview of the training assessment, the detail of how the assessment is to be conducted is contained in the ASpec. It contains all the information needed to conduct a valid assessment including the type of test, marking details, pass/fail criteria for the assessment of TOs/CTOs and the consequences of failure. Trainers should always use an up-to-date ASpec when planning an assessment. The main purpose of the ASpec is to control what is assessed and how. Trainers must assess all of the EOs and KLPs as specified in the ASpec and not make any changes that alter these. The manner in which the assessment is conducted is determined by the ASpec. Designers strive to provide as much realism as possible, sometimes by using simulation, instrumented or scenario-based activities and so unauthorised changes to the realism of a practical assessment may make it invalid. If limited resources make it
difficult to deliver the assessment in the recommended way or the ASpec appears too restrictive, the DTS, DTM or Chain of Command should be informed.

25. **Assessment of learning considerations in the workplace environment – 3.2.2.** Whilst the generic guidance on assessment of learning is relevant for all training, there are some special considerations for the workplace training environment. The proper conduct of assessments in the workplace is critical to the assurance of Defence outputs, since it requires making a judgement on trainee performance and progress and to decide on whether they are sufficiently competent in a particular task to be qualified to work without supervision. Trainers should be able to administer assessments in a fair, valid and reliable manner according to the specifications provided. This is particularly important because workplace assessments may not be conducted under the same conditions that would usually be expected in more structured training environment.

26. **Types of assessment.** Workplace assessments are generally practical in nature and are used to test individuals or teams in the achievement of a Skill, or Skills, both mental and physical. They can assess either the product of the Skill or the process involved in employing the Skills and should have an associated checklist to ensure both reliability and objectivity in assessment. The WTS will often require the trainees to be assessed on a Skill that has already been practised and assessed in a simulated environment but which now needs to be confirmed in a live environment. It is important that workplace assessments are conducted in a context that properly reflects the real challenges of the Role. Workplace assessments can be either formative or summative. The detail of what should be assessed and how it should be assessed is contained within the training documentation and should include:

   a. AStrat and ASpecs.

   b. A workbook or other document containing a description of the Performance, Conditions and Standards to be achieved. It is important to ensure that the required Performance is assessed under all the Conditions stipulated (such as, field conditions, without support) and to the Standards specified. This may involve reference to a particular Service manual or handbook which is to be detailed in the training documentation. Any uncertainty as to how the assessment should be conducted and/or recorded should be referred to the DTS, DTM or Chain of Command.

27. **Recording assessments.** Recording assessments is an essential activity for all training environments to provide:

   a. A record for each trainee which includes a summary of all test results (both formative and summative), as well as a record of action taken, such as counselling notes or copies of written warnings. This record is then used to guide the trainee’s report.

   b. A table consolidating all the summative test results for all trainees. This record, accumulated over several repetitions of a training activity, provides valuable information for InVal of training in general, and evaluation of tests in particular.

   c. Supporting information for the assurance (audit, evaluation and inspection) and accreditation of training.

28. **Remedial training strategy – 3.2.3.** Consideration should be given to developing a remedial training strategy (which would form part of the overall AStrat) that is appropriately programmed and resourced. There is further Direction on Remedial Training in JSP 822, Part 1, Chapter 2, Section 2.6. Trainees that fail assessments or otherwise do not meet the required standard of performance within the prescribed conditions should be given all available and practical opportunities to be provided with additional, or remedial, training in order to both give the trainee the best possible opportunity to pass the training activity. This will ensure the costs and resources expended on training are not wasted. Re-testing should only be conducted once the trainee has received remedial training to fill the Knowledge, Skill or Attitude gap. Re-testing
without remedial training will likely be a waste of resource. A remedial training strategy should consider:

a. The resources, time and trainer capacity necessary to deliver additional training.

b. The most cost-effective way to deliver additional training (such as integrating remedial training with other or later training activities).

c. Programming in revision and refresher training and conducting regular summative assessments to minimise the chances of failure (‘training in’ rather than ‘selecting out’).

d. Assessment variability (such as question banks) to ensure that trainees do not learn how to pass the test rather than learn the subject.

e. Identifying as early as possible trainees that are likely to need additional training (i.e. catching the problem early, where it will take less effort to correct than it would at the final assessment).

f. Use of blended learning methods to provide additional training opportunities.

g. Clear policy that explains the conditions under which trainees may expect additional training and where they may not. The policy should also lay out the trainee’s responsibilities for taking charge of achieving their own learning outcomes.

**Improving training**

29. Training Providers have responsibility for day to day management of the InVal process for training, including management of the assessment strategies and feedback mechanisms used. Trainers must make sure that they understand the local procedures for internally validating training. More detail on InVal is given in JSP 822, Part 2, Chapter, 1, Section 1.5.

30. **After Action Review (AAR).** An After Action Review (AAR) is generally used in team and collective training as a mechanism to provide feedback (usually through instrumented events) to the trainees. AARs are usually conducted at natural pauses in the tempo of an exercise or collective training event and are often conducted ‘in the field’ by the collective trainers (also known as Observers or Mentors). Occasionally, the AAR process is confused with an informal or unprepared ‘de-brief’ where the mechanics of the collective training event undertaken are explained but its relevance, or otherwise, to the CTOs, Mission Task List (MTL) or doctrine is often missed. Also, there is a view that AARs rely solely on the subjective opinion, experience and judgement of the collective trainer, rather than a sound and well developed series of objectively assessable CTOs. Therefore, the Training Provider should ensure that AARs are used as a mechanism to assess trainees against a specified Standard. An ASstrat with ASspecs should be developed for collective training events and the AAR process should be used to implement them in order to ascertain if the team has achieved the required Standard as laid out in the CTOs. If the team was unsuccessful, consideration should be given to remedial training and re-assessment, if resources allow.

31. **Deployed collective trainer training – 3.2.4.** In addition to the assessment of skill fade in collective tasks, which should have been undertaken as part of setting Standards in Element 1 (TNA Stage 2, 1.4B), as well as consideration of the sustainment of generated forces, users should also consider any requirements for deployed training as part of the OA\(^{138}\). This will ensure that trainers are capable and current for the training activity. Where a trainer’s ability to conduct a task is likely to fade over time, they may need to train while deployed or to re-role as necessary to

\(^{138}\) That is readiness consumption - see Defence Direction for Collective Training in Part 1.
support structured agility. Any requirements for deployed training should be based on Teamwork Error Analysis (1.3.6B).

**Programming of training**

32. **Programming training – 3.3.** The Training Provider should produce and maintain an annual programme of all training activities. Any changes which arise within the current Training Year (TY) should also be reflected in the annual programme of training activities. There is no suggested methodology for programming. A common sense approach should be used and a clear understanding of the freedoms and constraints available to programmers will ensure that training activities:

a. Use available resources efficiently and to maximum effect;

b. Match the best Method & Media to the desired learning outcome;

c. Generate variety, stimulation and interest;

d. Programme different activities intelligently (such as not programming a lecture directly after a session of PT) that build progressively from basic individual Skills lessons through to team and collective training events;

e. Build in time for movement, administration, rest, meals and breaks;

f. Consider environmental, seasonal, weather or light factors if required (for outdoor practical and collective training);

g. Use a standardised programming format that builds routine and publish changes to the norm early;

h. Simulate, replicate or use realistic or real Conditions;

i. Have a method of informing trainees and trainers of unavoidable, short notice changes to the programme;

j. Minimise the administrative or non-training burden to the trainee.

33. Programming is usually carried out by a centralised design cell or Training Provider as a headquarters function. In larger Training Providers it is essential that trainers adhere to the programme as resources will need to be carefully managed to meet the needs of a high number of trainees on different training activities.

**Scheduling of training**

34. **Scheduling training – 3.3.** Once training activities are programmed the elements should be sequenced, or scheduled, in order that the training is conducted in the correct order to optimise both the acquisition and retention of the KSA. This ensures that training is built up and TOs/CTOs and their dependent EOs and KLPs are delivered in the order that maintains the integrity of their dependencies (i.e. that the achievement of a TO/CTO may require dependent EOs/KLPs to be conducted in a particular sequence in order to ensure that the trainees' KSA is built up progressively). This, however, may not always be necessary. The course schedule or programme is usually produced by the Course Design Cell as part of the course documentation. Particularly in larger training organisations, it is essential that trainers stick to the planned course schedule, as resources and classrooms will need to be carefully managed to meet the needs of a high number of trainees and different courses. Where there is a need to change the course schedule, this

139 See Defence Joint Operating Concept, DCDC, dated Mar 14, para 3.18.
should always be approved by the course manager and trainers should aim to avoid short notice changes wherever possible.

**Resourcing of training**

35. **Resourcing training – 3.3.** Resourcing the training activity is intimately tied into its programming and scheduling. The Training Provider, supported by the TDA and other stakeholders, should ensure that the activity is properly resourced. This is in order to implement and maintain the Training System, continuously strive to improve its effectiveness, and enhance Customer satisfaction by meeting the TRAs training requirements.

   a. **Human resource.** The personnel involved in all aspects of DSAT, particularly in the delivery and evaluation of the training activity should be trained and competent to carry out their Roles. It is the responsibility of the TDA, enforced by the Training Provider, to ensure that all training staff are provided with the appropriate training and have relevant experience.

   b. **Infrastructure and environment.** The Training Provider, supported by the stakeholders, should also determine, provide and maintain the infrastructure and working environment needed to achieve the trained output, which includes:

      (1) Buildings, workspaces and associated utilities;

      (2) Training equipment and support equipment (both hardware and software) and training estates (with associated facilities);

      (3) Supporting services.

36. **JPA Competences/Qualifications /TAFMIS/DLMC – 3.3.1.** When competences/qualifications gained by the trainees are properly recorded, Manning Authorities can ensure that the right people are placed in the right Roles, based upon their KSA. Poor information management and capture of this information will adversely affect Defence outputs.

   a. **JPA competences.** Processes should be put in place to ensure the accurate and timely capture of new competences and qualifications resulting from the training activity. JPA is the Defence information management system that captures and records this information for career and manning purposes. Where new competences, resulting from a new or changed training activity, need to be added to JPA, reference should be made to JSP 794

   b. **TAFMIS/DLMC.** Defence Guidance provided in Part 2, Chapter 3, Section 3.1 on Training Management Information Systems (Information Technology) (TMIS (IT)) explains the use of the Training Administration and Financial Management Information System (TAFMIS). TAFMIS is a bespoke centralised system that provides DSAT-compliant tools to manage Defence training activities, as well as the means to extract business intelligence data to enable targets to be measured and improvements to be made. TAFMIS applications allow/help the users to: analyse Roles; develop and schedule training activities; manage resources and trainers; manage trainees and evaluate the training delivered. It is intended that TAFMIS (a lifed programme) will be replaced by the new Defence Learning and Management Capability (DLMC) in due course.

**Piloting of training activity**

37. **Piloting of training activity – 3.4.** To help identify any issues or problems early, a pilot course or pilot collective training event should be conducted. Piloting of a training activity is
defined as, 'the first delivery of a newly designed training activity under ‘realistic’ conditions'. The purpose is not only to prove what works, but also to highlight problem areas so they can be revised as necessary. Checking the training activity in this manner will ensure it is cost-effective and, therefore, meets the requirement. The aim of a pilot is to establish how well the following perform when used for real with actual trainees:

a. Programme.
b. Documentation.
c. Materials.
d. Lesson/Event plans.
e. Location/Environment.
f. Resourcing, training support and administration.

38. **Planning.** Planning the pilot requires answers to the following questions:

a. When will the pilot be conducted?
b. Which trainees will be on the pilot?
c. Which trainers will be used?
d. How much time is required?
e. Are all the resources available and allocated?
f. What revisions can be made during the pilot? (i.e. what alternatives are available?).

39. **Pilot stages.** Ideally, there should be 3 stages to the pilot:

a. **Stage 1: One-to-One.** An initial assessment of the training material should be conducted using 1-3 SME individuals or small teams as ‘guinea pigs’.

b. **Stage 2: Small Group.** 6-12 people, or medium teams, who are representative of the intended trainee group, undertake the training together. Those conducting the pilot observe closely and frequently gather trainee and trainer opinions by questionnaires and interviews.

c. **Stage 3: Field.** The first fully staffed ‘production’ course or collective training event, with genuine trainees and all the allocated training resources and administrative support. 100% of the training delivered is monitored.

40. In practice, resources rarely permit the full application of one-to-one and small group trials, and training activities tend to commence with a field trial. Nonetheless, these procedures should be applied to test and revise at least those portions of a training activity which involve high cost Methods & Media and/or where failure to achieve Standards has to be avoided at all costs.

41. During the pilot, it is important to safeguard the interests of the trainees. The trainees should not be disadvantaged because they attended a pilot. The following actions should therefore be considered:

a. Trialling parts or all of the materials before the pilot (e.g. a particular demonstration to ensure it works and how much time it takes).
b. Allocate additional time to the pilot to allow for changes and revisions.

c. Adopt intensive InVal procedures during the pilot, so issues are identified early and where possible rectified.

d. Ensure that trainees that fail part or the whole of the pilot have the opportunity to be re-trained and/or re-tested.

42. **Data collection.** A major activity during the pilot will be data collection. A comprehensive system of obtaining feedback is the only way of interpreting what is happening. Table 3 provides suggested information for data collection.

<table>
<thead>
<tr>
<th>Ways to Collect Data</th>
<th>Possible Questions/Observations to Assist with Collecting Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>By observation of lessons/events</td>
<td>Time used&lt;br&gt;Training requiring clarification&lt;br&gt;Training causing trainee hesitation&lt;br&gt;Training drawing incorrect trainee responses</td>
</tr>
<tr>
<td>Information from trainees during lessons/events</td>
<td>Omissions of content&lt;br&gt;Difficulties with concept&lt;br&gt;Difficulties with sequence&lt;br&gt;Typographical or spelling errors in text and other media&lt;br&gt;Inadequate graphic or visual presentations&lt;br&gt;Unclear directions</td>
</tr>
<tr>
<td>From trainees and trainers after lessons/events</td>
<td>Level of interest&lt;br&gt;Level of difficulty&lt;br&gt;Level of understanding of objective or teaching points&lt;br&gt;Potentially irrelevant material&lt;br&gt;Sufficiency of trainee practice&lt;br&gt;Adequacy of feedback to the trainee&lt;br&gt;Detail and clarity of directions&lt;br&gt;Particular learning problems&lt;br&gt;Suitability of visual aids&lt;br&gt;Suitability of tests&lt;br&gt;Likes and dislikes&lt;br&gt;Trainee confidence&lt;br&gt;Administration&lt;br&gt;Recommended changes</td>
</tr>
</tbody>
</table>

Table 3. Data Collection Information

43. It is important that the methods chosen to collect data can be used to both evaluate and assess the pilot. All data collected has to be analysed to determine what conclusions may be drawn and what implications they may have. The result of this process is a list of realistic recommendations, supported by the data that should be compiled as a report and submitted to the appropriate governance body (such as the CEB) for approval and action. The data collection and analysis for the pilot should consider:
a. How will the data be analysed (e.g. using statistical methods on test results)?
b. How often will the data be analysed during the pilot and recommendations provided?
c. How will the data be presented, (e.g. bar charts, summary tables etc)?
d. Who will be involved in the analysis and final recommendations?

44. **Stakeholder involvement.** Depending on the type of Training Provider there may be up to 7 key stakeholders involved in the pilot:

a. Training management staff.
b. Training design staff.
c. InVal staff/cells.
d. Trainers.
e. Dedicated exam staff (where employed).
f. Trainees.
g. TRA.

45. Each stakeholder has distinct responsibilities, but few are mutually exclusive. The success of the pilot relies heavily on a collaborative approach to achieve all the tasks. Many activities rely on input from more than one stakeholder. Clearly, feedback from InVal will result in changes to the training activity during its lifetime. It should be made clear who is responsible for implementing these changes and maintaining the training activity.

**Training deficiency**

46. **Management of training deficiency – 3.5.** Managing risks to the trained output (i.e. the KSA and/or Teamwork Description of the trainees undergoing either individual or collective training) is different from assessing and managing risks associated with the Training System. The responsibility for the management of training deficiency lies with the Training Provider. Where risks or issues resulting from identified training deficiencies cannot be mitigated by the Training Provider such training deficiency-based risks should be elevated for treatment or toleration etc. Identifying and raising training deficiencies shows the stakeholders where training shortfalls exist or where risks have been taken owing to either an inability to train certain TOs/CTOs (due to weather constraints or equipment casualties, for example) or a training failure that has been picked up through the assurance process. Such deficiencies suggest that trainees may not hold the competences that the training should have delivered. These are essentially unplanned but unavoidable training gaps which should therefore be captured and the appropriate governance body informed so that a decision can be made to treat, tolerate or transfer the training deficiency. A Training Deficiency is not the same as the Residual Training Gap. The Residual Training Gap is agreed by the TRA early on in the DSAT process and is articulated in the RTGS.

**MTS**

47. **CRA – 5.11.** In addition to the ongoing process for assessing and registering risk, as part of the MTS, Training Providers should conduct a health and safety risk assessment of the training environment and all training activities. This assessment should be documented, maintained as a
Quality Record, recorded in the training documentation and made available at the point of delivery. Trainees should be made aware of the risks associated with a particular training activity or training environment prior to the training activity taking place. Part 1 of JSP 822 states the need for a CRA to be produced to ensure proper and appropriate risk management, and Care and Welfare support to trainees.

48. **Collective training risk management – 5.12.** The management of risk to capability by the TDA through collective training shows the TRA what has been trained and where shortfalls exist or risk is being taken in declaring a team or capability ready for operations. This risk management (captured in Figure 3) should, as a minimum, cover:

a. Any risk owing to an inability to train some elements of the collective operational task(s) (i.e. the difference between the operational Performance required and the training available). This risk implies that a generated force, Force Element (FE) or team is not ready to undertake untrained tasks.

b. Any risk owing to a failure of one or more assessments. This risk implies that a generated force, FE or team has been trained but is not wholly competent to undertake certain tasks.

![Mission task(s) / Operational requirement](image)

<table>
<thead>
<tr>
<th>Mission task(s) / Operational requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collective training undertaken</td>
</tr>
<tr>
<td>Assessment(s) successful</td>
</tr>
<tr>
<td>Assessment(s) unsuccessful</td>
</tr>
<tr>
<td>Collective training not undertaken</td>
</tr>
</tbody>
</table>

Figure 3. Risk Management of Collective Training

49. **Certification of collective training.** Certification of collective training confirms the achievement of force generation and is conducted by the TRA in order to ensure that a force or FE can be deployed and that any associated risks are accepted. A process to achieve this should be developed by Commands in alignment with the Contingent Capability Requirements and Standards (CCRS) process, such that data or management information provided by TDA assurance processes can support TRA decisions on accepting risk to ongoing operations. Certification involves two related considerations: assessment of readiness and readiness consumption.

50. **TQM – 5.13.** The TQM is the CEB-endorsed document that sets the requirements, both in process and output terms, necessary to set and maintain the Defence-mandated QMS. Each TQM will be unique to the specific requirements of the Training System for which it is written. It is recommended that work begins on the TQM as soon as is practical. It is common for the Training Provider and TDA to produce the TQM but the document must also reflect appropriately the activities of the TRA. An aide-mémoire for a TQM is at Annex M, and should include:

a. The scope of the MTS, including the details of, and justification for, any exclusions.

b. **Training Quality Policy – 5.13.1.** This should set out the rules regarding the establishment and maintenance of the QMS to ensure that the Training System delivers...
training that meets Defence mandated training requirements. Therefore the Training Quality Policy should:

1. Be appropriate to the purpose;
2. Include a commitment to comply with requirements and Continuously Improve (CI)\(^{145}\) the effectiveness of the MTS;
3. Ensure that training targets are established and provide a framework for establishing and reviewing them;
4. Be communicated and understood within the organisation as to the importance of meeting TRA as well as statutory and regulatory requirements;
5. Be regularly reviewed for continuing suitability;
6. Articulate how reviews and evaluations of the MTS will be conducted;
7. Ensure the availability of resources to support the MTS.

c. **Training targets – 5.13.1.** These ensure that the Training System remains effective, efficient and appropriate to the training need. They should be designed to ensure that the Training System meets the requirements for the trained output. They should also be measurable and consistent with the Training Quality Policy.

d. **Quality records (and their control) – 5.13.1.** Records should be established and maintained to provide evidence of conformity to requirements and of the effective operation of the MTS. Records should remain legible, readily identifiable and retrievable. A documented procedure should be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposal of records. In addition, documents required by the MTS will need to be controlled. A documented procedure should therefore be established to define the controls, as required:

1. To approve documents for adequacy prior to issue;
2. To review and update, as necessary, and re-approve documents;
3. To ensure that the current revision status of documents are identified;
4. To ensure that relevant versions of applicable documents are available at points of use;
5. To ensure that documents remain legible and readily identifiable;
6. To ensure that documents of external origin are identified and their distribution controlled;
7. To prevent the unintended use of obsolete documents and to ensure they are identifiable as obsolete should they need to be retained.
8. Procedures established for the MTS, or reference to them (including analysis, design, delivery and assurance of training);

\(^{145}\) Continuous improvement should be embedded in the routine business of delivering training and underpinned by a culture that empowers staff and generates trust so that individuals feel able to step forward with new ideas. In the context of the DTC, the role of the DTM and DTS, in particular, is critical in creating and maintaining this culture of continuous improvement, by promoting the adoption of good practice, the exploitation of learning technologies and the provision of CPD at all levels. That said, all training staff should be made aware of their role in the continuous improvement process.
(9) A description of the interaction between the processes of the MTS (such as the DSAT process itself) including the documents needed to ensure the effective planning, operation and control of the Training System processes.

f. **Evaluation Strategy – 4.1.** The Evaluation Strategy is part of Element 4 (Assurance). Guidance is therefore provided later in this Chapter at Section 1.5.

51. **Trainee and trainer management – 5.14.** In order to ensure the Training Provider, supported by all stakeholders, is compliant with the Defence mandated QMS, procedures for the management of trainees and trainers should be established and maintained. It is natural for commanders to focus on the trainees but the welfare of trainers and support staff is of equal importance. These procedures should comply with all extant statutory legislation and other applicable Government directives. Records to confirm whether or not a trainee attended a particular training activity and the results of assessments should be maintained. Where appropriate, the Training Provider should identify the trainee by suitable means (such as with a trainee number) throughout the training activity. The Training Provider should identify the status of the trainee with respect to the trainee’s achievements against the requirements of the training activity. Training activity entry requirements should be documented and be accessible to all relevant authorities responsible for preparing or controlling trainees. Procedures should also be established, documented and maintained to verify that trainees have met any required prerequisite Standards. The Training Provider should ensure that appropriate trainee and trainer induction is provided and documented and that welfare, pastoral and learning support is provided. One aspect of learning support is the support given to those personnel with specific learning difficulties (SpLD). The Direction for those with SpLD in Defence is in Part 1, Chapter 6, Section 6.1 of this JSP. A description of the common SpLD is at Annex N.

52. The Training Provider is responsible for the care of all personnel that live and work within the training establishment or environment. However, particular attention should be paid to the Care and Welfare of trainees, particularly those in initial training. To this end, Training Providers are to ensure that they meet the requirements as laid out in the Direction in Part 1 of this JSP for the Supervisory Care for Phase 1 Recruits and Phase 2 Trainees which states the need for a Supervisory Care Directive. Trainers and training support staff must be appropriately trained and checked and supported to ensure suitability to the unique responsibilities of working with trainees.

Annexes:

A. Defence Trainer Competency Framework.
B. Guidance and TORs for Defence Trainers (Phase 1 or 2).
C. Guidance and TORs for Defence Trainers (Phase 3).
D. Guidance and TORs for Defence Workplace Trainers.
E. Guidance and TORs for Defence Higher Education Trainers.
F. Guidance and TORs for Defence Trainer Supervisors.
G. Guidance and TORs for Defence Trainer Managers.
H. Guidance and TORs for Commanding Officers of Training Establishments.
I. CPD Guidance.
J. Defence Trainer Portfolio Guidance.
K. Defence Code of Practice for Trainers.
L. Lesson/Event Plan.
N. Description of Common SpLD.
The Defence Trainer Competency Framework (DTCF) is a standards document which identifies specific trainer-related\textsuperscript{146} behaviours or competencies for Defence Trainers. It is aligned principally to the role of Defence Trainer (Phase 1 or 2) and is used to assess the progress and development of these trainers both whilst they are in training and also as they work in training delivery under the guidance of a Defence Trainer Supervisor (DTS). The Role PSs for the Defence Trainer (Phase 3) and the Defence Workplace Trainer (DWT) are also linked to the DTCF but the standards will not be fully met by the training that these types of Defence Trainer receive and, therefore, may also not be met in the workplace even as the trainer develops\textsuperscript{147}. The DTCF is also linked to the DTS role; the DTS should demonstrate the DTCF competencies in their own training delivery and should use the DTCF to develop those whom they are supervising. Thus, the DTCF has broad utility for Defence Trainers, DTSs and Defence Trainer Managers. It also assists the line manager in writing appraisals. The DTCF sets out not only the JPA competences\textsuperscript{148} but also the three effective indicator levels\textsuperscript{149}:

a. **Level 1 (Foundation)**. This is the lowest level of competency, achieved through the successful completion of the Defence Train the Trainer Phase 1 and 2 pre-employment training course or its equivalent. The individual displays an understanding of what effective performance looks like and has demonstrated practical application in training.

b. **Level 2 (Practitioner)**. The progression from Foundation to Practitioner level is achieved through supervised and supported completion of the Workplace Training Statement (WTS) Defence Trainer Portfolio once an individual is in post. The individual displays detailed knowledge and understanding and is capable of providing evidence and guidance to others and has also demonstrated practical application in a range of work situations.

c. **Level 3 (Advanced Practitioner)**. This is not mandated by the DTC Direction but may be achieved through further professional development and/or training following achievement of Practitioner level. The individual displays leadership, extensive knowledge and understanding in the trainer context, and acts as a role model for colleagues and subordinates. They have also demonstrated consistent practical application in a wide range of work situations.

\textsuperscript{146} As opposed to vocational or subject-specific related behaviours.

\textsuperscript{147} Equally, not all the Competency Groups and/or sub-competencies will be relevant.

\textsuperscript{148} The term used for a competence or a competency on JPA is a ‘competence’.

\textsuperscript{149} Note that the 3 levels of competence for Defence Trainer (Phase 1 or 2) that drop down on JPA that correspond to ‘Foundation’, ‘Practitioner’ and ‘Advanced Practitioner’ are ‘Awareness’, ‘Practitioner’ and ‘Expert’. These 3 levels also exist for the DTS but there is no separate DTS Competency Framework. Explanations of how to reach the 3 levels for DTS are explained in JSP 822, Part 1, Chapter 4, Section 4.1, albeit work needs to be undertaken in TY 17/18 to assess the requirements to reach DTS Advanced Practitioner.
**Group 1: Understanding the role of the trainer**

**Definition:** Performs the leadership role of the trainer within the required boundaries

**Outcomes:**
- Learners’ attitudes and behaviours are shaped by the trainer’s example
- Learners are inspired and empowered to do what is required of them
- Learners feel valued, respected and recognised as individuals
- Learners perceive the learning environment as safe, with clear boundaries

<table>
<thead>
<tr>
<th>FOUNDATION</th>
<th>PRACTITIONER</th>
<th>ADVANCED PRACTITIONER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competency 1.1 – Acts as a role model</strong></td>
<td><strong>Actively</strong> promotes single Service Core Values and standards</td>
<td>Ensures that single Service Core Values and Standards are upheld and promoted</td>
</tr>
<tr>
<td><strong>Upholds</strong> single Service Core Values and standards</td>
<td><strong>Fosters</strong> an environment of mutual respect</td>
<td>Ensures that trainer standards of behaviour and dress are maintained</td>
</tr>
<tr>
<td><strong>Shows</strong> respect for others</td>
<td><strong>Maintains</strong> exemplary standards of behaviour and dress</td>
<td><strong>Inspires</strong> and motivates other trainers by example</td>
</tr>
<tr>
<td><strong>Maintains</strong> high standards of behaviour and dress</td>
<td><strong>Inspires</strong> and motivates others by example</td>
<td><strong>Positively</strong> influences the learning environment through development of trainers as role models</td>
</tr>
<tr>
<td><strong>Leads</strong> by example</td>
<td><strong>As a role model, shapes</strong> trainee attitudes towards learning and achievement</td>
<td></td>
</tr>
<tr>
<td><strong>Is aware</strong> of the influence of the trainer as a role model upon trainees</td>
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The appendices that accompany the DTCF contain academic models and further reading to assist Defence Trainers and DTSs in understanding the framework. They are drawn from Dstl research contained in TIN 2.014 ‘Understanding Training Delivery’ (2014). The appendices are not directly linked to achievement of the related competency albeit PAR is expected to be used in the delivery of a lesson. There are, of course, other academic models that could underpin the DTCF that are not mentioned here.

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<table>
<thead>
<tr>
<th>Competency 1.2 – Leads Trainees</th>
<th>Competency 1.3 – Actively promotes Diversity and Inclusion</th>
<th>Competency 1.4 – Maintains discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Upholds</strong> Single Service ethos and culture</td>
<td><strong>Performs</strong> within Diversity and Inclusion guidelines and policy</td>
<td><strong>Identifies</strong> disciplinary problems and resolves them at the lowest most effective level and in the most appropriate manner</td>
</tr>
<tr>
<td><strong>Recognises</strong> the need for both directive and non-directive approaches to training</td>
<td><strong>Demonstrates</strong> an awareness of cultural and generational differences in learning needs</td>
<td><strong>Complies with Military Law</strong></td>
</tr>
<tr>
<td><strong>Recognizes</strong> the benefit of using trainee errors as positive learning opportunities</td>
<td><strong>Demonstrates</strong> an awareness of Specific Learning Difficulties (SpLD)</td>
<td><strong>Acts within Defence, Single Service and local unit codes of practice</strong></td>
</tr>
<tr>
<td><strong>Recognizes</strong> the attitudes of Active and Passive Learners (Appendix 1)</td>
<td></td>
<td><strong>Applies</strong> and refers appropriate disciplinary actions and procedures</td>
</tr>
<tr>
<td><strong>Actively</strong> promotes Single Service ethos and culture</td>
<td><strong>Recognizes</strong> and values individual trainee strengths</td>
<td><strong>Gives</strong> direction and guidance to other trainers on appropriate disciplinary actions and procedures</td>
</tr>
<tr>
<td><strong>Employs</strong> appropriate leadership styles to optimize learning, directing only where safety or discipline may be breached</td>
<td><strong>Enables</strong> effective learning irrespective of cultural difference</td>
<td></td>
</tr>
<tr>
<td><strong>Allows</strong> trainees to make mistakes and creates developmental opportunities from these</td>
<td><strong>Adapts</strong> training to suit different learning styles</td>
<td></td>
</tr>
<tr>
<td><strong>Inspires</strong> others by communicating achievable goals</td>
<td><strong>Adapts</strong> training to suit generational differences</td>
<td></td>
</tr>
<tr>
<td><strong>Develops</strong> and instils positive (Active Learner) attitudes in others</td>
<td><strong>Identifies</strong> potential SpLD and refers to appropriate subject matter expert (SME)</td>
<td></td>
</tr>
<tr>
<td><strong>Promotes</strong> an inclusive learning culture</td>
<td><strong>Manages</strong> learning environments to take account of SpLD</td>
<td></td>
</tr>
<tr>
<td><strong>Takes</strong> responsibility for ensuring that Single Service ethos and culture are maintained</td>
<td><strong>Develops</strong> unit policy and procedures to optimize learning and promote individualized training</td>
<td></td>
</tr>
<tr>
<td><strong>Gives</strong> direction and guidance to other trainers on the use of appropriate leadership styles</td>
<td><strong>Gives</strong> direction and guidance to other trainers on enabling effective learning</td>
<td></td>
</tr>
<tr>
<td><strong>Inspires</strong> other trainers</td>
<td><strong>Advises</strong> trainees on process of diagnostics and suitable coping strategies</td>
<td></td>
</tr>
<tr>
<td><strong>Develops</strong> and instils positive attitudes in other trainers</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Determines</strong> and creates an optimum learning culture by employing active leadership and management skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competency 1.5 – Ensures trainee welfare</td>
<td>Demonstrates an awareness of:</td>
<td>Fosters a safe and supportive environment</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Welfare issues relevant to the training environment</td>
<td>Demonstrates interest in learner welfare</td>
<td>Demonstrates potential welfare issues and takes appropriate action to support learners</td>
</tr>
<tr>
<td>The signs and indicators of potential welfare issues</td>
<td>Recognizes potential welfare issues and takes appropriate action to support learners</td>
<td>Acts in accordance with Defence, single Service and local unit policy on welfare</td>
</tr>
<tr>
<td>The welfare agencies available to provide support</td>
<td></td>
<td></td>
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</tbody>
</table>
Group 2: Planning and preparing learning and development (L&D) for the training environment

Definition: Completes the planning and preparation processes required to deliver effective L&D in the training environment

Outcomes:

- Learning events are aligned with learner motivation and made relevant to the operational requirement
- Learning events are learner-centric and structured to the learning process
- Learning events meet both organisational and individual goals
- Resources actively engage the learner and are relevant to the operational requirement
- Continuous improvement is an integral part of the learning event

<table>
<thead>
<tr>
<th>FOUNDATION</th>
<th>PRACTITIONER</th>
<th>ADVANCED PRACTITIONER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Competency 2.1 – Plans and prepares for group learning events</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plans and prepares L&amp;D against the key parameters for learning success</td>
<td>Employs relevant DSAT course documentation to identify desired learning outcomes and plans collective learning events</td>
<td>Has a sound knowledge of the DSAT process and in particular the role of evaluation in developing training</td>
</tr>
<tr>
<td>Applies the construct of PAR to learning events (Appendix 2)</td>
<td>Collects information relevant to trainees learning and development goals and plans accordingly</td>
<td>Directs improvements based on validation outcomes.</td>
</tr>
<tr>
<td>Applies appropriate level of motivational strategies: Attention, Relevance, Confidence, Satisfaction (ARCS) to learning events (Appendix 3)</td>
<td>Employs a range of learning styles</td>
<td>Reviews trainee achievements, evaluating these to identify gaps in meeting learning and development goals.</td>
</tr>
<tr>
<td>Applies the Principles of Adult Learning when planning learning events (Appendix 4)</td>
<td>Coordinates learning to meet individual and group goals</td>
<td>Develops improvements to group learning events based on evaluation results.</td>
</tr>
<tr>
<td>Plans and prepares learning that engages a range of learning styles</td>
<td>Employs the lesson planning cycle to prepare a range of appropriately structured theory and/or practical group learning events</td>
<td>Provides advice and guidance to junior trainers on the planning and preparation of group learning events</td>
</tr>
<tr>
<td>Plans to monitor and evaluate whether learning has taken place</td>
<td>Identifies how collective learning events will be monitored and evaluated</td>
<td></td>
</tr>
</tbody>
</table>
### Competency 2.2 – Plans and prepares for individual learning

**Encourages** trainee self-reflection in learning  
**Supports** the self-regulated learning process: ([Appendix 5])  
**Builds** self-efficacy in trainees  
**Uses** mastery orientation and goal setting techniques ([Appendix 6])  
**Gives** learner-centred informative feedback ([Appendix 7])  
**Influences** trainee motivation by boosting self-esteem and encouraging achievement  
**Encourages** trainee to reflect on and evaluate own knowledge and ability levels  
**Uses** progressively challenging sub-goals to stimulate individual trainee effort  
**Identifies** appropriate methods for achieving specific learning goals  
**Supports** trainee in personal goal setting and evaluation of progress through feedback  
**Monitors** effects of trainer attitude on learners’ performance and acts to promote a constructive climate for success  
**Identifies** trends in barriers to progress and develops strategies to overcome these  
**Advises** other trainers on learner-centred feedback and supports them in doing so  
**Plans** remedial training  
**Promotes** and supports the development of individualized training activities

### Competency 2.3 – Plans and prepares resources

**Plans** and prepares core resources appropriate to the learning task  
**Adapts** to the use of technology enhanced learning resources  
**Uses** core teaching resources to support learning  
**Prepares** an inclusive learning environment to meet the needs of all learners  
**Prepares** appropriate resources to support a range of learning needs, including SpLD friendly training aids  
**Identifies** appropriate opportunities for the use of technology enhanced learning resources  
**Ensures** adaptations to existing resources are consistent with learning needs and professional practice  
**Plans** simulated exercises that replicate the challenges of the work environment  
**Monitors** the standard of the learning environment and makes recommendations for improvement  
**Identifies** the resources needed to deliver the overall plan and ensures these are within allocated budgets  
**Develops** and implements new strategies which exploit emerging technologies and display good practice  
**Supports** junior trainers in the identification and development of appropriate resources
Group 3: Planning and preparing learning and development (L&D) for the work environment Definition: Completes the planning and preparation processes required to facilitate effective individual L&D in the work environment

Outcomes:
- Learning events are aligned with learner motivation and made relevant to the operational requirement
- Learning events are learner-centric and structured to the learning process
- Learning events meet both organisational and individual goals
- Resources actively engage the learner and are relevant to the operational requirement
- Continuous improvement is an integral part of the learning event

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<tr>
<td>Competency 3.1 – Plans and prepares to facilitate individual learning in the work environment</td>
<td>Establishes a relationship with the individual that supports individual learning and reflection. Agrees learning needs, goals and objectives with the individual. Plans with the individual to develop skills and knowledge: - Apply skills and knowledge in a work environment - Reflect on how they have learned and applied learning Assesses and plans with the individual on how to manage any risks during the L&amp;D process Reflects on own practice and identifies areas for improvement</td>
<td>Has a sound knowledge of the role of evaluation in developing training Reviews individuals’ achievements, evaluating these to identify gaps in meeting learning and development needs Develops improvements to workplace training based on evaluation results Provides advice and guidance to other trainers on the planning and preparation of workplace training. Reflects on own and others’ practice to identify areas where training provision can be improved</td>
</tr>
</tbody>
</table>

Recognizes the value of individual L&D in the work environment
Applies the construct of PAR to learning events (Appendix 2)
Applies appropriate motivational strategies: ARCS to learning events (Appendix 3)
Applies the Principles of Adult Learning (Appendix 4)
| Competency 3.2 – Plans and prepares to engage and support subordinates in the work environment |
|---|---|---|
| **Recognizes** the barriers to performance and progress in workplace learning | **Builds** a positive relationship with an individual that encourages and motivates learning | **Recognizes** changing requirements of learners and provides tailored guidance and encouragement |
| **Supports** the components of self-regulated learning processes: Readiness, Resourcefulness, Resilience, Responsibility and Reflectiveness (Appendix 5) | **Supports** and deals appropriately with barriers to performance and progress | **Monitors** effects of trainer attitude on others performance and acts to promote a constructive climate |
| **Builds** self-efficacy in trainees | **Encourages** the individual to take responsibility for their own development. | **Identifies** trends in physical and psychological barriers to progress and develops strategies to overcome these |
| **Applies** the principles of Goal setting, Monitoring and supporting individual learning, Reflecting and evaluating, Mastery orientation and goal setting techniques (Appendix 6) | **Supports** the individual in planning their own L&D | **Mentors** other trainers to use learner-centred feedback. |
| **Gives** learner-centred informative feedback (Appendix 7) | **Ensures** information, advice and support conform to relevant policies, procedures and legislation | |

| Competency 3.3 – Plans and prepares to assess subordinates in the work environment |
|---|---|---|
| **Applies** the key concepts and principles of assessment for learning and assessment of learning (Appendix 9) | **Plans** assessment based on appropriate methods: | **Recognizes** the strengths and limitations of a range of assessment methods to select methods |
| **Uses:** | • Observation of performance | **Monitors** the standard of the workplace assessment and makes recommendations for improvement |
| • Different types of workplace assessment methods and ways of involving individuals in the assessment process | • Examining products of work | **Supports** other trainers in the development and implementation of assessments |
| • Naturally occurring information and evidence in the assessment process | • Effective Questioning | |
| **Applies** the principles of Data Protection and Freedom of Information (FOI) to assessment data | • Discussing with the individual | |
| **Communicates** the purpose, requirements and process of assessment to the individual | • Use of others (witness testimony) | |
| **Ensures** assessment process conforms to relevant policies, procedures and legislation (data protection and FOI) | • Learner statements | |
Group 4: Facilitating learning and development (L&D) in the training environment
Definition: Creates and maintains a training environment which enables the individual to acquire/develop the necessary vocational skills and knowledge

Outcomes:
- Individuals are actively engaged in the L&D process
- Individuals feel supported and able to relate their L&D goals
- Individual’s achievement is used as a motivational tool
- Individuals set realistic personal goals based on self-assessment and constructive feedback

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<tr>
<td>Competency 4.1 – Manages whole group L&amp;D</td>
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<tr>
<td><strong>Demonstrates</strong> an awareness of:</td>
<td><strong>Delivers</strong> theory and/or practical training sessions using appropriate instructional methods</td>
<td><strong>Develops</strong> own techniques to manage group dynamics</td>
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<td></td>
<td><strong>Manages</strong> learning activities to meet individual and group needs</td>
<td><strong>Maintains</strong> currency with the latest delivery methods, training aids and use of technology and adapts own delivery accordingly</td>
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<tr>
<td></td>
<td><strong>Adapts</strong> delivery according to trainee response while still achieving planned outcomes</td>
<td><strong>Develops</strong> optimum delivery methodologies for specific subjects and shares good practice with other trainers</td>
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<td></td>
<td><strong>Uses</strong> appropriate and effective training aids, including SpLD friendly resources</td>
<td><strong>Maintains</strong> currency with subject matter and adapts training content accordingly</td>
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<tr>
<td></td>
<td><strong>Draws</strong> on a range of appropriate delivery methods and media, including new and emerging technologies</td>
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<td></td>
<td><strong>Provides</strong> appropriate subject matter expertise</td>
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</table>

| Competency 4.2 – Manages individual L&D | | |
| **Gives** informative feedback to the Learner (Appendix 7) | **Uses** different communication methods and skills to meet the needs of learner | **Establishes** relationships with learner that supports individual learning and reflection |
| **Encourages** learner self-reflection (Appendix 10) | **Encourages** learner feedback | **Provides** positive developmental and motivational feedback |
| **Agrees** individual learning goals (Appendix 6) | **Plans** and negotiates learning goals with learner | **Supports** and enables learners to reach their individual potential |
| **Supports** learning skills (Appendix 8) | **Adapts** plan to maximize individual learning | |
| | **Encourages** learner self-reflection | |
| | **Identifies** strengths and areas for improvement | |
### Competency 4.3 – Assesses L&D

| Uses assessment in the training environment | Plans and delivers formative and summative assessment | Monitors the standard of assessments and makes recommendations for improvement |
| Uses core assessment methods | Uses a range of appropriate assessment techniques | Supports other trainers in the development and implementation of assessments |
| Involves learner in the assessment process | Facilitates self-assessment | Identifies common threads in learner errors and adapts training accordingly |
| Uses information derived from assessment (judgement and measurement) to provide feedback to the learner and to the training system | Monitors learner progress and adapts plan accordingly | Gives feedback to the chain of command on the need for changes to training content/delivery |
| Records learner achievement | Maintains records of the assessment, its outcomes and trainees’ progress in accordance with local procedures |  |
| Applies legal and good practice requirements |  |  |

### Group 5: Facilitating individual learning and development (L&D) in the work environment

**Definition:** Creates and maintains a work environment which enables subordinates to acquire/develop the necessary occupational skills, attitude and knowledge

**Outcomes:**
- Individuals are actively engaged in the L&D process
- Individuals feel supported and able to relate their L&D needs
- Individuals’ achievement is recognised and recorded
- Individuals set realistic personal goals based on self-assessment and constructive feedback

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<tr>
<th>FOUNDATION</th>
<th>PRACTITIONER</th>
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<tbody>
<tr>
<td><strong>Competency 5.1 – Facilitates individual learning and development</strong></td>
<td><strong>Demonstrates</strong> an awareness of the following in relation to L&amp;D in a work environment:</td>
<td><strong>Demonstrates</strong> an awareness of work environment specific:</td>
</tr>
<tr>
<td></td>
<td>• The role of technology in supporting L&amp;D</td>
<td><strong>Monitors</strong> an individual’s progress at appropriate stages</td>
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<td></td>
<td>• Risks that need to be considered</td>
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<td></td>
<td>• Barriers that individuals might experience and ways of overcoming these</td>
<td><strong>Establishes</strong> appropriate opportunities to review progress with the individual</td>
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<tr>
<td></td>
<td>Uses a range of appropriate delivery methods and resources, including technology, to help the individual acquire/develop the skills and knowledge they need</td>
<td><strong>Identifies</strong> and exploits unplanned opportunities for learning in the workplace</td>
</tr>
<tr>
<td></td>
<td><strong>Supports</strong> the individual in applying learning in the work environment</td>
<td><strong>Organizes</strong> work practices to optimize learning and shares best practice with others</td>
</tr>
<tr>
<td></td>
<td><strong>Provides</strong> the individual with information, advice and support relevant to their needs</td>
<td><strong>Makes</strong> effective use of technology to support learning as and when appropriate and shares best practice</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Advises</strong> and supports the chain of command in fostering a learning culture within the organization</td>
</tr>
</tbody>
</table>

| **Competency 5.2 – Engages and supports subordinates in the L&D process** | **Demonstrates** an awareness of work environment specific: | **Monitors** an individual’s progress at appropriate stages |
|  | **Establishes** appropriate opportunities to review progress with the individual |  |
|  | **Establishes** relationships with individuals that exploit and develop individual diversity | **Creates** incentives for learning in the workplace |
|  |  |  |
- Ways of engaging individuals in L&D
- Procedures for reviewing individuals' progress at appropriate intervals
- Information, advice and support to meet individuals' development needs and ways to provide this informative feedback to the Learner (Appendix 7)
- Learner self-reflection (Appendix 10)
- Individual learning goals (Appendix 6)

| Provides the individual with constructive feedback |
| Enables the individual to give constructive feedback |
| Assists the individual in adapting their L&D plan as necessary. |
| Helps individuals to reflect on learning and application of learning |
| Provides positive developmental and motivational feedback. |

Competency 5.3 – Assesses subordinate achievement

| Uses assessment in the work environment (Appendix 9) |
| Uses core assessment methods. |
| Involves learner in the assessment process |
| Uses information derived from assessment to provide feedback to the learner and to the training system |
| Records learner achievement |
| Applies legal and good practice requirements |
| Analyses evidence of individuals' achievement |
| Provides evidence of individuals' achievement to others in a way that will enable them to assess them against expected outcomes |
| Uses valid, fair and reliable assessment methods |
| Makes assessment decisions against specified criteria |
| Provides feedback to individual that affirms achievement and identifies any further implications for learning, assessment and progression |
| Maintains records of the assessment, its outcomes and individuals' progress |
| Makes assessment information available to the immediate chain of command |
| Maintains appropriate confidentiality of assessment information |
| Meets legal and good practice requirements when assessing in the work environment |
| Exploits workplace assessment activities to motivate and engage individual in the L&D process |
| Identifies common workplace mistakes / misconceptions and adapts training accordingly |
| Gives feedback to the chain of command on the need for changes to the centralized training requirement |
Group 6\textsuperscript{151} Planning and facilitating learning with indigenous personnel (IP) in the Monitor, Mentor, Train (M2T) environment

Definition: Plans and delivers training in a way which enables IP to acquire/develop the occupational skills and knowledge necessary for an effective transition process

Outcomes:
- IP feel at ease and understand what is required of them
- IP are engaged and motivated by the training environment
- Learning is based on IP needs
- IP learn and develop at an appropriate pace and according to their individual potential

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<tr>
<td>Competency 6.1 – Plans and prepares learning</td>
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<tr>
<td><strong>Adapts</strong> training to:</td>
<td><strong>Communicates</strong> appropriately with IP to establish learning needs and goals</td>
<td><strong>Collects</strong> additional information relevant to the culture of the IP and their learning needs and plans training accordingly</td>
</tr>
<tr>
<td>• The cultural context in which training is to take place</td>
<td><strong>Plans</strong> and prepares training according to the cultural context and the learning needs of the IP</td>
<td><strong>Identifies</strong> and shares lessons relevant to the improvement of learning and training in the M2T environment</td>
</tr>
<tr>
<td>• The specific learning needs relevant to the indigenous personnel (IP)</td>
<td><strong>Plans</strong> to work with and/or without interpreters as appropriate to the specific role</td>
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<tr>
<td><strong>Demonstrates</strong> an awareness of alternative delivery methods when interpreters are unavailable</td>
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\textsuperscript{151} Group 6 still forms part of the DTCF but there is no DTC course which addresses this Competency Group. JSP 822, Part 1, Chapter 4, Section 4.1 provides more detail.
### Competency 6.2 – Facilitates learning

**Recognizes** the cultural factors which impact on:
- IP Hierarchy and organizational structure
- IP values
- IP motivation
- Discipline

**Applies** the principles of working with interpreters

**Demonstrates a** basic application of the key IP vocabulary relevant to the training environment

**Uses** instructional methods and media appropriate to the learning needs and culture of the IP

**Manages** the training environment effectively with and/or without interpreters as appropriate to the specific role

**Adapts** instructional leadership style appropriately to allow IP to take ownership of learning

**Recognizes** and refers discipline issues appropriately

**Deals** effectively with potential conflict between personal values and IP behaviour and values

**Develops** own knowledge of IP language and culture to establish relationships that exploit and develop individual IP strengths

**Identifies** ways to increase IP ownership of learning and improve the transition process

### Competency 6.3 – Assesses learning

**Recognizes** the cultural factors which may impact on:
- The assessment process when working with IP
- Giving feedback to IP of results and areas for improvement

**Ensures** IP understand the purpose and scope of the assessment process

**Assesses, records and reports** IP achievement in a fair, valid, reliable and culturally sensitive manner

**Identifies** optimum methods of IP assessment and develops these to become standard practice

**Identifies** appropriate ways to exploit the assessment process as a motivational tool
Group 7: Maintaining and improving quality standards  
Definition: Ensures progression for the Defence Trainer and continuous improvement for the organization through reflective practice, evaluation and continuing professional development  
Outcomes:  
- Trainer remains current and competent through feedback and professional development  
- Organisation learns from evaluation outputs and continually improves L&D provision  
- A flexible and collaborative learning organisation is fostered and maintained

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<td>Competency 7.1 – Reflects on, develops and maintains own skills and practice in L&amp;D</td>
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</table>
| **Uses** Critical Self-Analysis to review own professional development needs ([Appendix 10](#)) | **Critically** reflects on how own beliefs and attitudes influence professional practice  
**Informs** line manager on factors that negatively impact on own performance  
**Seeks** support on addressing L&D needs  
**Takes up** opportunities for professional development and progression in own unit  
**Maintains** own records of professional and personal development and uses these to inform future goal | **Prioritizes** areas for own development as a trainer  
**Plans** to achieve personal L&D  
**Actively** engages with the L&D needed to practice more effectively  
**Uses** a range of resources to keep own knowledge, skills and practice up to date  
**Shares** own L&D with peers  
**Identifies** opportunities for shared CPD  
**Coaches** subordinates in Critical Self-Analysis techniques |
## Competency 7.2 – Evaluates and improves L&D

### Recognizes:
- Own role in relation to quality assurance (QA)
- Individual team members’ contribution to QA
- The importance of involving the trainee in the QA process

### Demonstrates an awareness of:
- Quality requirements appropriate to own role
- QA techniques appropriate to own role
- Relevant types of feedback, support and advice

### Plans and conducts the monitoring and evaluation of L&D provision in accordance with agreed processes and outcomes

- **Evaluates** strengths and areas for improvement
- **Records** and reports outputs of monitoring and evaluation
- **Identifies** realistic and achievable potential improvements
- **Works** with others to plan and implement improvements
- **Monitors** and evaluates the impact of improvements

### Coordinates the monitoring and evaluation of L&D provision across the unit

- **Ensures** that agreed processes and outcomes are appropriate
- **Supports** trainers in identifying, planning and implementing improvements to learning and development provision
- **Critically** analyses training evaluation data and identifies trends in outputs which indicate areas for organisational improvement
Group 8: Leading learning and instruction in the training environment
Definition: Employs strategies to raise the quality of learning and instruction in a training establishment

Outcomes:
- Staff are actively engaged with the continuous improvement process
- Staff feel valued and supported in their professional development activities
- A lifelong learning culture is promoted and maintained
- Good practice is identified, shared and exploited

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<tr>
<td><strong>Competence 8.1 – Develops and maintains staff skills and practice in learning and development</strong></td>
<td>Establishes positive relationships and promotes a shared vision between instructional staff</td>
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<tr>
<td>Ensures staff competency and currency is maintained in line with policy requirements</td>
<td>Establishes CPD strategy for instructional staff</td>
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<tr>
<td>Records and reports on instructional staff qualifications</td>
<td>Motivates trainers and cultivates a life-long learning culture within the organisation</td>
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<td>Identifies instructional goals to professionally develop instructional staff</td>
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<td>Plans staff professional development activities</td>
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<td>Coordinates the provision of developmental feedback for instructional staff</td>
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<tr>
<td>Evaluates the effectiveness of professional development plans for instructional staff</td>
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**Competence 8.2 – Promotes educational good practice**

Demonstrates an awareness of:
- Applies relevant Defence training and assessment policy to the learning environment.
- Promotes and facilitates appropriate use of learning technologies.
- Promotes and facilitates communities of practice.

Evaluates the effectiveness of Defence training and assessment policy in own unit context and provides feedback to the chain of command

Coordinates the outcomes from communities of practice

Identifies new and improved strategies for the delivery of training (based on emerging technologies and communities of practice)
**Group 9: Employing functional skills**

**Definition:** Employs the functional skills necessary to perform effectively as a trainer

**Outcomes:**
- Trainees/subordinates are engaged and communicate freely with the trainer
- A range of up to date reference materials are made available
- Trainees/subordinates receive clear, legible, written instructions and feedback
- Accurate records are maintained electronically
- Schedule timings are appropriate and are adhered to

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<td><strong>Competency 9.1 – Demonstrates appropriate Speaking skills</strong></td>
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<tr>
<td>Verbally expresses ideas clearly</td>
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<td>Uses appropriate language and tone to suit the intended audience</td>
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<tr>
<td>Uses appropriate non-verbal communication</td>
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<tr>
<td><strong>Competency 9.2 – Demonstrates appropriate Listening skills</strong></td>
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<tr>
<td>Listens attentively and responds sensitively to contributions made by others</td>
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<tr>
<td><strong>Competency 9.3 – Demonstrates appropriate Reading skills</strong></td>
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<tr>
<td>Finds and selects from a range of reference material and sources of information, including the internet</td>
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<td>Identifies and records key information or messages contained within reading material using note-taking techniques</td>
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<tr>
<td>Uses and reflects on a range of reading strategies to interpret texts and to locate information or meaning</td>
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<tr>
<td><strong>Competency 9.4 – Demonstrates appropriate Writing skills</strong></td>
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<tr>
<td>Writes fluently, accurately and legibly</td>
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<tr>
<td>Selects appropriate format and style of writing(^\text{152}) for specific purposes and readers</td>
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<td>Uses spelling and punctuation accurately in order to make meaning clear</td>
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<td>Understands and uses the conventions of grammar consistently when producing written text</td>
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\(^{152}\) Includes the use of Defence Writing (DW) conventions and Army/Defence templates in appropriate contexts.
### Competency 9.5 – Demonstrates appropriate Information and Communications Technology skills

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<tr>
<th>Action</th>
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<tbody>
<tr>
<td>Finds</td>
<td>Finds, selects and exchanges information using ICT systems</td>
</tr>
<tr>
<td>Develops</td>
<td>Develops and presents information using ICT systems</td>
</tr>
<tr>
<td>Conforms</td>
<td>Conforms to relevant ICT policies, procedures and legislation(^{153})</td>
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</table>

### Competency 9.6 – Demonstrates appropriate Numeracy skills

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<tr>
<th>Action</th>
<th>Details</th>
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<tbody>
<tr>
<td>Plans</td>
<td>Plans and monitors lesson timings</td>
</tr>
<tr>
<td>Calculates</td>
<td>Calculates assessment scores</td>
</tr>
<tr>
<td>Employs</td>
<td>Employs statistical information e.g. graphs to identify trends and other areas of interest</td>
</tr>
<tr>
<td>Plans</td>
<td>Plans course schedules.</td>
</tr>
</tbody>
</table>

### Appendices:

1. Leadership
2. PAR and lesson structure
3. ARCS Motivation model
4. Principles of Adult Learning
5. Self-regulation
6. Self-efficacy and goal setting
7. Feedback
8. Learning skills
9. Assessment and Taxonomies
10. Critical Self-Analysis

\(^{153}\) Includes Defence Information Assurance (IA) policies, procedures and legislation in appropriate contexts.
LEADERSHIP

1. The military has moved from a transactional model of leadership to a transformational model\textsuperscript{154}.

\begin{figure}[h]
\centering
\includegraphics[width=0.7\textwidth]{transformationalLeadershipModel.png}
\caption{Transformational Leadership Model}
\end{figure}

2. Models for transformational leadership abound but the above model resonates particularly well in a learning context when considering trainers as leaders of learning.

The task

3. The transformational leadership task of the trainer can be summarised against the following model:

**Figure 2. Transformational Leadership Task of the Trainer**

4. The four parameters in blue describe what a learner requires for learning success and the element in black at the centre is what the trainer needs to deliver on behalf of the organisation. The transformational leadership task is to support the learner’s achievement of the organisation’s mission.

The team

5. **Social Cohesion.** A particular feature of military training is the emphasis placed on the development of military ethos and culture built around the team identity – ship, regiment, squadron. Research shows that good group performance builds group cohesion more strongly than good group cohesion builds group performance. Put simply, the task is more significant than the team\(^{155}\). The implication for training is that group-shared focus on the learning task, e.g. learning together as peers and collaborating in learning tasks, will strengthen group cohesion. Traditionally learning and

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assessment of learning have been focused on the individual. Recent research, however, shows that peer and group strategies can lead to very effective learning and robust assessment. For an organisation such as the military which places such emphasis on teamwork, in learning, as in operations, belief in the team goals is as important as belief in one’s own goals.

6. **Trust.** Effective learning also relies upon trust: trust in one’s self, one’s peers, trust in the value of the learning and trust in those inculcating and leading that trust – in the learning scenario this is trust in the trainer. Learners must trust that their trainers are truthful and consistent in what they say and how they behave. This is especially true of feedback and praise. ‘Faint praise’ is instantly recognisable by the learner and rather than building self-efficacy, will harm it. Research also shows that trust in the relevance of the training as seen and reflected by self, peers and superiors is a significant factor in motivation to learn, belief in learning and learning transfer. The organisation may set great store in the specified training requirement. However, if the learner considers the training to be a waste of time or not representative of the real world then learning is unlikely to occur.

**The individual**

7. Providing a generalised description of the military learner is difficult. Academic achievement varies from below GCSE to Doctorate. The age range spans generations. The cultural and ethnic mix is hugely diverse. The only commonalities are that learners tend to be different from their predecessors and tend to be different from their trainers.\(^\text{156}\) Much has been written about ‘generational differences’ and, while it is important to recognise the generational trend of the digital age, it is also important to remember that whether digital or analogue generation, people share the same cognitive learning functions.

8. **Active Learners.** Despite how modern (digital) learners may interface with information, technology and with each other, a simple classification defines two types of learner – the Active or the Passive Learner:\(^\text{157}\):

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\(^\text{156}\) This raises a complication in military training where the learner may be of significantly higher academic achievement level to their trainers, particularly but not uniquely in Phase 1 training.

<table>
<thead>
<tr>
<th>Active Learner</th>
<th>Passive Learner</th>
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<tbody>
<tr>
<td><strong>Learning is something I do myself</strong></td>
<td><strong>Learning is something that is done to me</strong></td>
</tr>
<tr>
<td>Success or failure depends upon things that I can control. So:</td>
<td>Success or failure depends upon things outside my control. So:</td>
</tr>
<tr>
<td>• I need to find the right resources</td>
<td>• I have poor trainers</td>
</tr>
<tr>
<td>• I need to check my understanding</td>
<td>• The resources are bad</td>
</tr>
<tr>
<td>• I need to see where I can improve</td>
<td>• I have low intelligence</td>
</tr>
<tr>
<td>• I need to take control of my learning</td>
<td>• I’m not good enough</td>
</tr>
<tr>
<td>So if I don’t learn:</td>
<td>So if I don’t learn:</td>
</tr>
<tr>
<td>• I need to change something I do</td>
<td>• It’s the trainer’s fault</td>
</tr>
<tr>
<td>• I need to use other resources</td>
<td>• It’s the resources fault</td>
</tr>
<tr>
<td>• I need to ask someone for help</td>
<td>• I’m stupid</td>
</tr>
<tr>
<td>Either way, I have control and responsibility. Best I crack-on!</td>
<td>Either way, all I can do is give up.</td>
</tr>
<tr>
<td>Focus is on:</td>
<td>Focus is on:</td>
</tr>
<tr>
<td>• The process – what should I do next</td>
<td>• The outcome - failure</td>
</tr>
<tr>
<td>• How do I do my best (and this isn’t necessarily perfection or better than everyone else)</td>
<td>• Avoidance of this outcome (frequently by distracting from failure to ‘achieve’ by drawing attention to failure to ‘comply’ – i.e. disruption/ill-discipline(^\text{158}))</td>
</tr>
<tr>
<td>• The positives</td>
<td>• The negatives</td>
</tr>
</tbody>
</table>

Figure 3. Active v Passive Learner

9. **Individual learning styles.** Research has identified numerous models of individual learning style, e.g. Fleming’s VARK (Visual, Auditory, Read/Write, Kinaesthetic); Activist, Theorist, Pragmatist, Reflector\(^\text{159}\). These tend to suggest fixed patterns of learning that work for each individual

\(^{158}\) This shows a natural individual need for some form of locus of control – the failing trainee creating the conditions for dismissal, not because they cannot achieve the organisations goals – but because they choose not to comply with them.

but more recent research\textsuperscript{160}, particularly in the adult learning arena, found no hard evidence to support this fixed pattern view. Rather, the evidence showed that learners, though they may have a preferred style, learned best when using a range of styles to exercise the whole-brain\textsuperscript{161}. Evidence shows that examining concepts from many perspectives strengthens and deepens learning. An understanding of learning styles is still important, but the importance is that each style should be exploited to create variety, interest and challenge.

10. **Individual learning needs.** Resistance to, and criticism of, learner-centric approaches to training and education often fixes on the idea that focusing on individual learner needs disempowers the organisation’s operational needs. Some learner needs are completely learner-centric and are ‘Duty of Care’ issues, e.g. physical needs (disability, injury, sleep, shelter and food), psychological needs (emotional or behavioural problems, e.g. self-harm), health needs (rest, fitness, diet, illness), learning needs (e.g. dyslexia, dyscalculia, dyspraxia, scotopic sensitivity syndrome), care needs (e.g. Care Leaver, ex-offender). Having recognised these individual ‘duty of care’ needs, remaining ‘learner needs’ can be categorised in to learner ‘start state’ categories and individual learner goals. Start-state issues will include prior learning, qualifications held, in-test results. Learner goals focus on individual learner progress towards the required learning outcomes (which are linked to the organisational needs) and are addressed through goal orientation and goal setting (see Appendix 6).

11. **Error management.** Error management practices have developed broadly across engineering and safety sectors and particularly in aviation and cockpit resource management. Learning from errors, learning to mitigate the effect of errors and learning that errors are to be met with and dealt with openly and honestly are excellent learning outcomes for an organisation seeking ‘agility’. The key learning activity is not that errors are made but that positive error management strategies are practised to rectify errors. The first learning point for trainers is to restrain themselves from intervening and rectifying errors too early. Learners must identify and acknowledge the fact of error and at least start to rectify it. This non-blame leadership stance is developmental and supportive to the learner but often sits uncomfortably with more authoritarian and transactional leadership styles.


**APPENDIX 2 TO ANNEX A TO JSP 822 PT 2, CH 1, SECT 1.4**
**DATED JUN 19**

**LESSON STRUCTURE AND THE PAR MODEL**

<table>
<thead>
<tr>
<th>Present</th>
<th>Apply</th>
<th>Review</th>
</tr>
</thead>
</table>
| Learning goals are explained  
- Objectives or goals are given  
- Advanced organiser used (review of link to prior learning)  
- Persuasive account of the relevance and importance of the work |
| Students are given tasks that require them to apply the knowledge, theories, skills etc… that have just been presented. This involves them in problem solving, making decisions, creating visual representations of learning: mind-maps, ‘rich picture’ posters, diagrams, grouping post-its etc…  
**Learning Strategies:**  
- Practical tasks: (e.g. when learning a practical skill)  
- When learning cognitive skills  
- Group discussion  
- Case study  
- Exercises, questions, worksheet, essay, etc  
- Discussion to develop an argument or answer a question etc…  
- Decisions game (good for learning concepts)  
- Student presentation  
- Critical evaluation of exemplars  
- Peer marking or marking exemplars  
| What was to be learned is summarized and clarified, with emphasis on the key points. This is especially important at the start and finish of topics and lessons.  
**Learning strategies:**  
- Q&A: (Ask don’t tell, as this checks learning)  
- Create a mind-map, poster or handout that summarises the key points.  
- Key points reiterated  
- Advanced organizers  
- Stressing the importance and relevance of the work  
- Reviews at the beginning of next lesson  
- Short task at the beginning of a lesson  
- Key points at the end of a topic  
- Peer explaining of key objectives followed by check by the trainer  
- Quiz; test; etc … Assessment of learning  
| |
| Use +/- 30% of available time | Use +/- 60% of available time | Use +/- 10% of available time |

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Present – New learning is loosely connected to existing construct

Apply – using new learning strengthens the connections

Review – learning is processed and increasingly interwoven with prior learning. This is both a conscious activity and an unconscious one, conducted during further application, repetition, reflection and REM sleep.

Figure 4. Brain Function Patterns and Connections
ARCS MOTIVATION MODEL

1. The ARCS motivation model identifies a 4-step process for establishing and maintaining motivation by directly addressing learner Attention, Relevance, Confidence, and Satisfaction. In its simplest form, ARCS can be summarised by matching each of the four steps, which the trainer must implement, with the resulting trainee state of mind, e.g. the trainer establishes Attention by using strategies to convince the trainee that the learning will be interesting, funny etc.

<table>
<thead>
<tr>
<th>ARCS step</th>
<th>Trainee state of mind</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention</td>
<td>This is... interesting ...curious ...humorous... surprising</td>
</tr>
<tr>
<td>Relevance</td>
<td>This is... useful... something I know a little or a lot about... something that I can use in my work</td>
</tr>
<tr>
<td>Confidence</td>
<td>This is... do-able... challenging but not too hard... within my control</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>This is... rewarding... worthwhile ...a positive experience</td>
</tr>
</tbody>
</table>

2. A more detailed explanation of how each step is implemented is shown in the following table:

<table>
<thead>
<tr>
<th>Attention: Grabbing and holding attention is the most important part of the model because once learners are interested they are motivated to continue.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 Perceptual arousal</td>
</tr>
<tr>
<td>A2 Inquiry arousal</td>
</tr>
<tr>
<td>A3 Variability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relevance: using language, context and examples that learners are familiar with.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1 Goal orientation (future usefulness)</td>
</tr>
<tr>
<td>R2 Motive matching</td>
</tr>
<tr>
<td>R3 Familiarity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Confidence: establishing positive expectations for achieving success among learners.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1 Learning requirements</td>
</tr>
<tr>
<td>C2 Success opportunities</td>
</tr>
<tr>
<td>C3 Personal control</td>
</tr>
</tbody>
</table>

---

**Satisfaction**: learners must obtain some kind of satisfaction or reward from a learning experience.

<table>
<thead>
<tr>
<th></th>
<th>Intrinsic reinforcement</th>
<th>Allow the learner to feel that the learning has been worthwhile by giving them the opportunity to use it in a real or realistic setting.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Extrinsic rewards</td>
<td>Provide positive reinforcement and motivational feedback. Track and recognise completion of learning, give genuine praise, and use positive feedback to connect successful performance in training to likelihood of success within the job.</td>
</tr>
<tr>
<td>S2</td>
<td>Equity</td>
<td>Maintain consistent standards and consequences for success. Use established and recognised assessment criteria.</td>
</tr>
</tbody>
</table>
## PRINCIPLES OF ADULT LEARNING

<table>
<thead>
<tr>
<th>Principle</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adults are internally motivated and self-directed</td>
<td>Adult learners resist learning when they feel others are imposing information, ideas or actions on them. They prefer to have control over what they learn and when they learn it. Guide (rather than direct) students to foster their internal motivation to learn and move them toward more self-directed and independent learning.</td>
</tr>
<tr>
<td>2. Adults bring life experiences and knowledge to learning experiences</td>
<td>Adults like to be given the opportunity to make use of their existing foundation of knowledge and life experience to support their new learning experiences. Identify and acknowledge students’ past experience and use active learning techniques that allow them to problem solve using logical reasoning and common sense.</td>
</tr>
<tr>
<td>3. Adults need to know why they are learning something</td>
<td>Adult students become ready to learn when they recognise that they need to learn something in order to deal more effectively with real-life tasks or problems. Aim to increase the student's awareness of the need for the knowledge or skill presented.</td>
</tr>
<tr>
<td>4. Adults want to know they can use learning straight away</td>
<td>Adult learners tend to prioritise their learning and so they want to know how the learning relates to their immediate goals. Provide opportunities to make use of (apply) new learning in a lesson in order to help students recognise the relevance and value of what they are learning.</td>
</tr>
<tr>
<td>5. Adults learn by doing</td>
<td>Active participation is important for adults and they generally learn best by starting with a problem and working to find a solution. Where possible use realistic tasks, situations and scenarios for problem solving exercises.</td>
</tr>
</tbody>
</table>

1. **Self-regulation.** Self-regulation in learning describes a process of controlling and evaluating one’s own learning and behaviour. This process may be sub-conscious, but is more effective if a conscious activity. There are four stages: task perception, goal setting, enacting and adaptation.

![Diagram of self-regulation process]

**Task perception**
Gather information about the task and personalize perception of it. Motivation and self-efficacy are checked.

**Goal setting**
Goals are set dependent on how the student perceives the task. A plan is developed to accomplish the task.

**Adaptation**
The learner evaluates their performance and determines how to modify their strategy in order to achieve higher performance in the future.

**Enacting**
The plan is enacted by the learner using a personal repertoire of learning strategies. Progress is monitored against the goals.

Figure 1. Self-regulation in Learning

2. Self-regulated learners are ‘Active learners’ (see Appendix 1) who attribute their successes or failures to factors within their control e.g. effort expended on a task, effective use of strategies) within their control. They are aware of their strengths and weaknesses in learning, and they have a range of strategies they appropriately apply to tackle the day-to-day challenges of learning tasks.

3. Trainee motivation is the key factor in adopting self-regulation. Trainers need to prompt learners to set and reflect on their personal goals and identify and review what they did to achieve the goal. In feedback, trainers should concentrate on mastery (strategies and processes) rather

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than the outcome (overall performance or product) itself in order to help learners develop self-monitoring capabilities.

4. The Campaign for Learning (2013)\textsuperscript{168} identified 5 attributes of the self-regulated learner:

- **Resourcefulness** – characterised by learning with and from others, learning creatively in different ways, being flexible, applying what you have learned.
- **Reflectiveness** – this shows in looking back, improving your learning and performance, and practising.
- **Responsibility** – this shows in your self-awareness in learning, taking ownership of your learning, and being able to learn alongside others.
- **Resilience** – this shows in keeping going, learning under stress, and managing your feelings about learning and the people you are learning with.
- **Readiness** – this shows in your motivation, curiosity, the belief that you can achieve and that you deserve to be successful.

Figure 2. The 5 Attributes of the Self-Regulated Learner

\textsuperscript{168} \url{www.campaign-for-learning.org.uk}
LEARNING, SELF-EFFICACY AND LEARNER GOALS

1. **Self-efficacy.** Self-efficacy is a term used to describe an individual’s belief in their ability to do what it takes to achieve a specific task. This is associated with self-confidence, self-awareness and self-worth but is of distinct importance in learning due to its specificity. An individual may well have huge self-confidence in their physical abilities and courage and accrue significant self-worth from wearing a unifying and pride-endowing cap-badge. However, they may still have significantly low self-efficacy where it comes to learning tasks. This belief may be built upon genuine low functional skills (e.g. literacy or numeracy), or under developed study skills (reading for meaning, note making or planning written work). These are ‘hard’ learning skills that can be taught. Equally, it may be built upon psychologically held beliefs that they cannot remember things, cannot concentrate, or cannot engage in cognitive achievement. These are ‘soft’ learning skills that respond well to coaching and the setting of goals. Years of formal education have made some of these learners past masters at avoidance techniques and they become Passive Learners, but the challenge is to make them Active Learners.

2. **Goal orientation.** Goal orientation deals with how an individual focuses on and defines achievement\(^{169}\). A focus on personal improvement to exert effort in order to master new skills (doing the best I can) shows ‘Mastery Orientation’ while a competitive focus on out-performing others (doing better than the others) is ‘Performance Orientation’. Where mastery of military and trade skills (e.g. Phase 1 and 2 training) is the emphasis, mastery orientation is better. Later in career (much of Phase 3), and once mastery has been established, the benefit often shifts to Performance orientation. Mastery orientation also leads to increased intrinsic motivation to learn, rather than extrinsic motivation to be noticed for performance. Mastery orientation responds better to developmental feedback than the ‘succeed or fail’ approach of Performance orientation. However, ‘performance’ rather than ‘mastery’ is often the focus of military assessment and reward which builds a performance orientation expectation, especially in those who succeed against these criteria, typically those promoted early. The learning point for Defence Trainers and coaches is that Mastery orientation may be alien to the coach but is better for the learner.

3. **Goal setting.** Goal setting is a means of orientating and focusing learners on appropriate (and organisationally required) learning goals and a means of transforming them from passive into active learners. Coaching techniques, typically the GROW\(^{170}\) model (Goal, Reality, Options, Will) employed by the military, include goal setting at the end of the process. It is of critical importance that goal setting is part of a virtuous circle that supports self-efficacy, achievement, feedback, and progression. The ‘distance’ between the learners’ perception of their own performance, the goal and the eventual outcome is critical as the greater the gap at any stage, the greater the risk of failure. Goal setting should identify the far (distal) outcome but focus on the near (proximal) sub-goals that will give the learner ‘quick wins’, the opportunity for structured, informative feedback and the ability to identify their success with their learning strategies and activities. It is important, however, that sub goals remain challenging and require moderate effort to achieve. Research shows that


goals that require little effort do not build self-efficacy (‘Well, of course I succeeded, that was easy’). Similarly goals that are too challenging and require too great an effort are equally damaging (‘That was so hard, I was lucky to get there/no wonder I failed’). The relationship between learner efforts required, satisfaction derived from success and awareness of how the success was achieved, builds self-efficacy and increases the sense of self-regulation or control over the Active Learning process.

4. **Achievement perception.** Important in the development of ‘belief’, or self-efficacy in goal setting is the degree to which learners recognise the achievability of the goal. Belief can be established by the learner realising that they are performing the task successfully (I can do it) or by observing others, with whom they can relate and equate themselves performing successfully (if they can do it, so can I). However, trainers should be aware that demonstration of mastery by the trainer can be damaging to self-efficacy. The perfect and rapid demonstration by an expert of weapon stoppage drills can be damaging if the learner’s perceived gap between capabilities, goal and outcome are too great (I'll never be that good).

5. **Calibration accuracy.** An equally important issue is the accuracy of the learner’s assessment of their own achievement. Learners, particularly the more self-confident, may consider themselves competent in a task, to have achieved or exceeded the required standard or to be performing at the best of their ability when in fact they are not. This is known as calibration accuracy. It is as important for trainers to address this issue as it is for them to support those with lower self-confidence and weaker perception of their ability.
FEEDBACK

1. Effective learning requires continuous monitoring of the distance between current performance and intended outcome or goal. Monitoring should lead to adjustments in strategy and changes in approach in order to continue to close the gap. This distance is measured by assessment but the adjustments and changes are caused by feedback, both internal feedback through critical self-analysis and external feedback from peers and trainers. Feedback on success or failure delivers the same degree of learning effect – it’s the feedback that matters not the success or failure.

2. How a learner perceives or defines success or failure is known as Attribution Theory\textsuperscript{171} and deals with the cause and effect reasoning applied by the learner. This is most obvious in the Active versus Passive Learner table (see Appendix 1) regarding to what or to whom to attribute blame for failure in learning. Positive attributions reason that success is possible provided sufficient effort and the right strategies or processes are applied. Negative attributions reason that failure is inevitable because they lack the required ability.

3. Specifically targeted or ‘informative’ feedback (as opposed to ‘judgmental’) can train in positive attributions by focusing on the positive aspects of process, the sub-goals, the aspects of mastery, rather than the outcome goal or performance.

4. Success is due to controllable factors.

5. Failure is due to insufficient or un-sustained effort or incorrect application of process or strategy.

6. Feedback has to be more complex than the ‘good, bad, good sandwich’. It needs to be specific, process and goal oriented, instructive, corrective where necessary but, vitally, it must support positive attribution of cause and effect.

## JUDGEMENTAL FEEDBACK VERSUS INFORMATIVE FEEDBACK

<table>
<thead>
<tr>
<th>Judgemental feedback</th>
<th>Informative feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Here is my judgement”</td>
<td>“These are your goals, this is what you did and this is how you get better”</td>
</tr>
</tbody>
</table>

### Characteristics of this feedback

- The feedback compares learners with each other and encourages performance orientation. It is ‘norm referenced’. The trainer gives grades or marks that make conscious or unconscious comparison with others.
- There are clear assessment criteria or goals. Feedback is about the degree to which these have been met.

### Effect of self-efficacy

- Judgement creates a ‘blame culture’. Learners blame factors out of their control. They avoid risks, errors and challenges.
- The learner feels accepted and that their efforts have been recognized and valued. They accept errors and risk.

### Consequent learning strategies

- Maladaptive. Ability is in-born and outside learner control. Mistakes are bad and attract criticism.
- Adaptive. Ability is learned from effort and practice and controlled by the learner. Mistakes are useful for learning.

### Effect

- Reduced interest, effort, persistence, motivation. In some: cases ‘learned helplessness’.
- Increased interest, effort, persistence, motivation. In time: ‘learned resourcefulness’.

*Figure 1: Judgemental v Informative Feedback*

After Petty, 2009\(^{172}\), and Black and William, 1998\(^{173}\).

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LEARNING SKILLS

1. Learners enter the military education and training system with the brain structures and cognitive abilities to learn but, not always with the required skills or strategies to learn. This Appendix does not relate to the ‘functional’ skills of numeracy and literacy, or dealing with specific learning difficulties. These are correctly left to specialist provision as they constitute ‘learning to do things’ rather than ‘learning to learn’.

2. A brief analysis of three very simple learning to learn strategies draws out and reinforces the concepts of learning already explored:

   a. Thinking aloud. It has been established that brain or cognitive function is about linkages and that the harder the brain is worked actively the stronger the connections, constructs and ability to recall from memory. Actively challenging the brain to use language to express understanding lies behind the concept of question and answer (Q and A) techniques. Too frequently Q and A is shallow recall and repetition rather than engaging deeper explanation, analysis, justification or counter argument. There is more to it than ‘pose, pause and pounce’. Variations on Q and A include peer-to-peer teaching, collaborative learning, discussions and a range of active learning approaches often grouped under the title ‘Evidence Based Teaching’. The ‘evidence’ referred to is a vast body of analysis\(^{174}/\text{175}\) of the effect on learning of various teaching and learning strategies and practices. These are gaining traction across Defence training and must be more widely exploited.

   b. Reading and Note making\(^{176}\). Staying with the concept of surface/passive and deep/active learning, the skills of reading and note making are key learning activities\(^{177}\). There are numerous strategies for both activities:

   (1) Surface reading is passive and at best is concerned with covering (seeing) the content and assimilating unaltered chunks of knowledge. Deep reading is active and is a process of analysis. Analysis depends upon reference to already held meanings and constructs; however, methodical analysis skills may need to be taught.

   (2) A useful strategy for reading and note making is, paragraph by paragraph, to Read - skim first to get the gist then re-read for detail, Analyse – assess what the paragraph is about, then re-Phrase the paragraph in your own words the main issue and 3 (if possible) points of detail (mnemonic RAP). It is useful also to write down the source of the note (e.g. book, article, page, paragraph number) so that it can be referred back to for further detail. This discipline intensifies the reading activity and establishes stronger links between externally held information (the notes) and the internally held information (memory and construct).

\(^{174}\) See particularly Marzano, R. (2001). *Classroom Instruction that Works*. Alexandra, VA: ASCD.


\(^{176}\) Note the distinction between note taking (writing down what someone says or shows) and note making (creating notes having processed the information).

c. **Writing.** Writing answers or explanations may seem an outdated activity in a digital age but it is a valuable learning and assessment activity. Its disadvantage in trainer time is balanced by advantage in learner activity and the gathering of evidence. A wide spread strategy for learning writing skills uses the mnemonic **POWER+TREE:**

- **Pick** or **pinpoint** the topic, argument or question.

- **Organise** and generate notes (see note taking above) and ideas for each part of the TREE:

  - **Topic.** What is the topic/question? (What)

  - **Reasons.** What are the reasons (ideally find 3 or more) behind the idea or concept? (Why)

  - **Explanation.** Explain the reasons (why and how they explain or underpin the topic).

  - **Ending.** Summarise your response.

- **Write** it down. Write a paragraph based on your notes and following the TREE structure.

- **Edit.** Sort out the spelling, typos and grammar.

- **Revise.** Read your paragraph again and make any changes to clarify your point

3. The advantage of having identifiable and structured learning strategies is that learner success can be analysed and coached against specific sub-goal processes. This structured approach to writing reinforces brain function patterns and connections built during the Present Apply Review (PAR) process (See Appendix 2).
ASSESSMENT, BLOOM’S TAXONOMY OF LEARNING OBJECTIVES AND THE SOLO TAXONOMY (STRUCTURED OBSERVATION OF LEARNING OUTCOMES)

1. **Assessment.** Although it takes many forms, it serves one of two purposes: *formative* assessment that allows judgement or measurement of progress towards a goal or *summative* assessment that judges or measures whether that goal has been reached. Both measures can be norm referenced – making comparison with others (performance orientation) or criterion referenced – making comparison to a standard (mastery orientation). Assessment, then, is the primary measure available to the learner regarding their achievement. It is also the evidence base of that achievement.

2. As with other learning activities the principles of motivation, goal orientation, believability, relevance (both to the operational requirement but also to that stage of development and learning) and trust are applicable. Assessment needs to be sufficiently challenging to be credible and to test deep learning must use higher levels of Blooms Taxonomy and elicit cognitive processing and responses at the higher end of the SOLO taxonomy. Assessment, to be more than a process that just gathers data, must be meaningful to the organisation (actually constitute proof of competence) and be meaningful to the learner through a process of feedback.

3. **Competence retention.** Assessment frequently provides evidence of ‘did once’ rather than enduring ‘can do’ evidence. Using summative tests of achievement immediately after teaching the subject can deliver very satisfying ‘pass rates’ which flatter both the learner and the learning organisation. Research into Competence Retention\(^\text{178}\) illuminates the issue of ‘forgetting’ across a range of competences.

![Figure 1. Competence Retention](image)

4. The diagram above shows that continuous psychomotor skills, perceptual motor skills such as target tracking, vehicle driving and basic weapon handling (e.g. load, unload, make safe) are retained for longest with only infrequent practice. This retention is linked to the typical training technique for these skills that entail frequent and persistent initial practice and repetition to gain mastery. The knowledge category refers to the memorisation and retention of facts and

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information. However, this must be contrasted with the more rapid degradation of higher order skills without frequent practice.

5. Decision-making skills access retained knowledge and apply reasoning in order to identify a problem and course of action. Discrete psychomotor skills are more complex than continuous psychomotor skills in that they combine both the physical skill of doing something and procedural skills or doing these things in a prescribed order such as weapon stoppage drills. The greatest ‘fade’ is experienced in pure procedural skills that sequence tasks. Application of sequenced procedure requires frequent repetition to maintain competence.

**Bloom’s taxonomy**

6. **1 - Know something.** An initial set of knowledge is required to underpin learning. This is the ability to recall something. The risk is that trainers fixate on this knowledge element and pre-load too much knowledge for recall too early. As we have seen, without the supporting structure of connections and meaning, this knowledge is meaningless and difficult to remember. It is of no intrinsic value to the learner. Building training and assessment at the knowledge level is easy but ineffectual. List, state, recall, describe test items are easy to set and mark for the trainer, but difficult (and frequently pointless) for the learner. Learners need to move on quickly to the next levels.

7. **2 - Comprehend it.** This implies that the learner understands it. In practice it means that the learner can explain it in terms of their own existing learning and experience, making connections. Again, full comprehension is only achieved once skills higher in the taxonomy have been developed.

8. **3 - Apply or use it.** This means doing something after being shown how – using the skill. Procedural skills and psychomotor (physical) skills come from different parts of the brain and respond to different training techniques, but this is the easiest level to observe and assess.

9. **4 - Analyse it.** Analysis requires breaking a complex whole down into parts and examining the parts separately; seeking causes and effects, reasons, comparisons or groupings. Analysis depends upon reference to already held meanings and constructs but also requires methodical analysis skills that may need to be taught. A useful concept is that analysis can be done by lens or knife. Analysis by lens examines the whole issue from a number of angles or perspectives; analysis by knife cuts an issue up into segments or logical parts. For example: knife analysis of a lesson could segment the introduction, development, assessment and progression; lens analysis could examine question technique, student interaction and resource use.

10. **5 - Evaluate it.** Evaluation requires judgement or critical appraisal of an issue. How effective is it? Is it complete? The difficult part in evaluation is deciding the criteria against which to evaluate – what does good look like? Again the knife and lens analogy is useful and prior learning and constructs are essential.

11. **6 - Synthesize it.** Synthesize into something new (create from it). Synthesis takes moves learners into the realm of applying and adapting known skills and knowledge to unknown or unpredictable scenarios – this is the level of Agility.

**SOLO taxonomy**

designed to aid both trainers and learners in understanding the learning process. There are five levels in the order of understanding:

a. **Pre-structural.** The learner does not understand the lesson and uses a much too simple means of going about it – the learner is unsure about the lesson or subject.

b. **Uni-structural.** The learner’s response only focuses on one relevant aspect – the learner has only a basic concept about the subject.

c. **Multi-structural.** The learner’s response focuses on several relevant aspects but they are treated independently – the learner has several concepts about the subject but they are disconnected.

d. **Relational.** The different aspects have become integrated into a coherent whole – the learner has mastered the complexity of the subject by being able to join all the parts together. This level is what is normally meant by an adequate understanding of a subject.

e. **Extended abstract.** The previously integrated whole may be conceptualised at a higher level and generalised to a new topic or area, i.e. the learner is now able to create new ideas based on mastery of the subject.

13. The SOLO Taxonomy demonstrates how deep understanding can be assessed by assessing the quality of the response from the learner. This taxonomy exploits both cognitive and constructive models and has increased application in the design of training for Agility.
CRITICAL SELF-ANALYSIS

1. Gaining feedback from others and self-reflection is an important step in developing self-awareness but, if it is to be really meaningful, we need to act on it.

2. The Critical Self-Analysis (CSA) process brings together the stages of reflection (how did I do?) and self-evaluation (where does that put me now?) and combines them with goal setting (where do I want to go?) and action planning (how am I going to get there?)

3. This is something that can be done alone, using the feedback gained from others and from self-assessment. Often, though, it is more useful and productive to engage in critical self-analysis with the support of another professional. The CSA process forms the basis of individual Continuing Professional Development (CPD) planning.

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**Figure 1. Critical Self Analysis**

- **Reflection and self-evaluation.** How well did I do? Where am I now? The learner reflects, evaluating their own skills, knowledge, values and attitudes.
- **Goal setting.** Where do I want to be? The learner considers their aspirations and sets personal goals or targets.
- **Action planning.** How will I get there? The learner decides on options to close the gap between where they are and where they want to be.
- **Action and Practice** Carry out the action plan, monitoring successes and errors, adjusting and revising strategies to achieve the goal.
GUIDANCE AND TORs FOR DEFENCE TRAINERS (PHASE 1 OR 2)

Description and role

1. The role of Defence Trainer (Phase 1 or 2) is defined in JSP 822, Part 1, Chapter 4, Section 4.1.

2. The guidance in this annex applies to Defence Trainers in Phase 1 or 2 training environments. Specific guidance for HE Trainer is at Annex E.

3. As a Defence Trainer (Phase 1 or 2) you will be responsible for the planning, preparation, delivery and assessment of group learning as well as planning and supporting learning with individual trainees. Dependent on your specific work context, this may include the management of trainee attitudes and behaviour, and the administration of trainee records and reports.

4. The Defence Trainer (Phase 1 or 2) plays a central role in ensuring that trainees succeed in training. You are not only the focus for teaching knowledge and skills, but also for inspiring, encouraging, supporting and challenging your trainees, through strong leadership, role modelling and coaching. You want your trainees to become independent learners, who can continue to regulate their learning when they go back to the workplace. Whatever their ability level, they will need regular feedback and support to help them assess their knowledge and skills, so that they can learn to identify and set their own goals for further professional development.

Minimum training requirement

5. JSP 822, Part 1, Chapter 4, Section 4.1 gives details of pre-employment training.

Professional development

6. All training for Defence Trainers (Phase 1 or 2) is based on the competencies set out in the DTCF. These competencies are graded according to 3 different stages of professional development: Foundation, Practitioner and Advanced Practitioner. On successful completion of the residential element of the DTTT Phase 1 and 2 course, you are awarded the JPA competence Defence Trainer (Ph 1 or 2) Level 1 (Foundation). Completing the WTS gains you a further JPA competence award of Defence Trainer (Ph 1 or 2) Level 2 (Practitioner). You then have the opportunity to progress to JPA competence Defence Trainer (Ph 1 or 2) Level 3 (Advanced Practitioner). This is achieved through a programme of CPD and, where appropriate, additional training.

7. Advanced Practitioner level is awarded by your Chain of Command. In order to achieve Defence Trainer (Ph 1 or 2) Level 3 (Advanced Practitioner), you will need to work with your DTS to identify ways in which you can provide the appropriate evidence of your advanced knowledge and skills, which should relate directly to the Advanced Practitioner behaviours listed in the DTCF. Guidance on how to achieve Advanced Practitioner is provided in Part 4 of your Defence Trainer Portfolio.
Accreditation

8. The Defence Awarding Organisation (DAO) accredits DTTT Phase 1 and 2 with a Level 3 Award in Education and Training. There is also the option of attaining the ILM Level 3 Award in Coaching through further study and submission of an extended portfolio of evidence post course.

Professional status

9. The Society for Education and Training is the professional membership organisation for practitioners working in the post-16 education and training system. Qualified Teacher Learning and Skills (QTLS) can be gained by successfully completing professional development. More details can be found at [set.et-foundation.co.uk](http://set.et-foundation.co.uk).
DEFENCE TRAINER (PHASE 1 OR 2) – TERMS OF REFERENCE

Role purpose. The role of the Defence Trainer (Phase 1 or 2) is to deliver or facilitate the delivery of formal training objectives in Phase 1 and 2 training environments.

Outputs/tasks. The main outputs and tasks for a typical Defence Trainer (Phase 1 or 2) are listed below. Dependent on the training environment in which the Defence Trainer (Phase 1 or 2) is employed, the emphasis may shift from one tasking area to another or there may be additional specialist requirements within a particular tasking area.

- Managing the attitudes and behaviour of trainees, including:
  - Promoting core Values and Standards and military ethos.
  - Maintaining and restoring discipline.
  - Supporting trainee welfare.
- Planning, preparing and delivering group learning in accordance with the relevant Learning Specifications.
- Planning and supporting individual learning using:
  - Coaching and mentoring techniques.
  - Learning support strategies.
- Conducting training administration in accordance with local unit requirements.
- Supporting continuous improvement of training through:
  - Assisting in the internal validation of training courses\(^{181}\).
  - Engaging in Continuing Professional Development (CPD) activities for both trade and trainer roles

Training and competence. The JPA Defence Trainer (Ph 1 or 2) Level 1 (Foundation) competence is achieved by passing the Defence Train the Trainer Phase 1 and 2 course. The JPA Defence Trainer (Ph 1 or 2) Level 2 (Practitioner) competence is achieved by and completing the Defence Trainer WTS in accordance with the Defence Train the Trainer Phase 1 and 2 Formal Training Statement (FTS).

\(^{181}\) During the InVal process trainers or trainees may highlight issues with the training content, e.g. pertaining to currency or relevance. In this case it is essential that any are highlighted shortcomings to the Chain of Command, so that the DSAT process can be used to make the necessary changes. Alterations to any part of the training documentation can only be achieved by following the appropriate formal change processes which must be authorised by the Training Requirements Authority (TRA) and carried out by the Training Delivery Authority (TDA). Trainers must be absolutely clear on their boundaries when adjusting training content.
Competencies. The following competencies, at Level 2 (Practitioner), are to be achieved after successful completion of the Defence Train the Trainer Phase 1 and 2 course, the completion of mandated workplace training (iaw the WTS) and the gaining of experience within the training environment:

- Group 1: Understanding the role of the trainer.
- Group 2: Planning and preparing learning and development (L&D) for the training environment.
- Group 3: Planning and preparing learning and development (L&D) for the work environment.
- Group 4: Facilitating learning and development (L&D) in the training environment.
- Group 5: Facilitating individual learning and development (L&D) in the work environment.
- Group 7: Maintaining and improving quality standards.
- Group 9: Employing functional skills.

\[182\] In accordance with Defence Trainer Competency Framework.
\[183\] Displays knowledge and understanding to support competencies, providing evidence and guidance to others. Demonstrates practical application in a range of work situations. Level expected after experience and completion of work-based learning.
GUIDANCE AND TORs FOR DEFENCE TRAINERS (PHASE 3)

Description and role

1. The role of Defence Trainer (Phase 3) is defined in JSP 822, Part 1, Chapter 4, Section 4.1.

2. The guidance in this annex applies to Defence Trainers in Phase 3 training environments.

3. As a Defence Trainer (Phase 3) you will be responsible for delivering Phase 3 training. The training content will most likely be articulated in a Training Performance Statement (TPS).

Minimum training requirement

4. JSP 822, Part 1, Chapter 4, Section 4.1 gives details of pre-employment training.

Accreditation

5. No accreditation is planned for DTTT Phase 3.
DEFENCE TRAINER (PHASE 3) – TERMS OF REFERENCE

Role purpose. The role of the Defence Trainer (Phase 3) is to deliver or facilitate the delivery of formal training objectives in Phase 3 which are articulated in a TPS.

Outputs/tasks. The main outputs and tasks for a typical Defence Trainer (Phase 3) are listed below. Dependent on the training environment in which the Defence Trainer (Phase 3) is employed, the emphasis may shift from one tasking area to another or there may be additional specialist requirements within a particular tasking area.

- Managing the attitudes and behaviour of trainees, including:
  - Promoting core Values and Standards and military ethos.
  - Maintaining and restoring discipline.
  - Supporting trainee welfare.
- Planning, preparing and delivering group learning in accordance with the relevant Learning Specifications.
- Planning and supporting individual learning using inclusive learning strategies.
- Conducting training administration in accordance with local unit requirements.
- Supporting continuous improvement of training through:
  - Assisting in the internal validation of training courses\(^{184}\).
  - Engaging in Continuing Professional Development (CPD) activities for both trade and trainer roles.

Training and competence. The JPA Defence Trainer (Ph 3 only) competence is achieved by passing the Defence Train the Trainer Phase 3 course. The training is linked to the DTCF competencies.

Competencies.

- Group 1: Understanding the role of the trainer.
- Group 2: Planning and preparing learning and development (L&D) for the training environment.
- Group 3: Planning and preparing learning and development (L&D) for the work environment.

\(^{184}\) During the InVal process trainers or trainees may highlight issues with the training content, e.g. pertaining to currency or relevance. In this case it is essential that any are highlighted shortcomings to the Chain of Command, so that the DSAT process can be used to make the necessary changes. Alterations to any part of the training documentation can only be achieved by following the appropriate formal change processes which must be authorised by the Training Requirements Authority (TRA) and carried out by the Training Delivery Authority (TDA). Trainers must be absolutely clear on your boundaries when adjusting training content.
- Group 4: Facilitating learning and development (L&D) in the training environment.
- Group 5: Facilitating individual learning and development (L&D) in the work environment.
- Group 7: Maintaining and improving quality standards.
- Group 9: Employing functional skills.
GUIDANCE AND TORs FOR DEFENCE WORKPLACE TRAINERS (DWT)

Description and role

1. The role of a DWT is defined in JSP 822, Part 1, Chapter 4, Section 4.1.

2. All NCOs and officers are expected to be able to develop their subordinates as a function of leadership and this is usually termed as 'informal' workplace (or on-the-job) training. However, formal workplace training (i.e. training which has been derived from the DSAT process and where the TOs form part of the WTS) has grown in importance over recent years, as the amount of time available for centralised training has reduced. It has also become clear that some elements of training are better delivered in the workplace to provide a more realistic context and ensure the most current version of training. Most importantly, there is a growing recognition that workplace training is essential if trainees are to take what they have learned on a training course and make proper use of it in their job. Your role as a DWT, therefore, may span a number of different areas, from the 'informal' on-the-job development of your subordinates to the delivery of formal training objectives during a unit-run course.

3. Effective delivery of workplace training requires a number of key skills. You will need to be able to recognise when your subordinates need 'informal' training in the workplace, and then to plan, deliver and assess the training. Dependent on your unit role and responsibilities, you may also need to be able to plan, deliver and assess some formal lessons or presentations in a classroom environment. These skills will need to be practised and developed, and so you should aim to learn from other DWT and other types of Defence Trainer, and where possible, seek guidance from a DTS if there is one in your unit. You will also find a wide range of useful resources on the Defence Trainer section of the DLE.

Minimum training requirement

4. JSP 822, Part 1, Chapter 4, Section 4.1 gives details of pre-employment training.

Accreditation

5. No accreditation is currently planned for the DTTT(W) course.

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185 'Informal' in this context means training not derived from the DSAT process.
DEFENCE WORKPLACE TRAINER – TERMS OF REFERENCE

**Role purpose.** The role of the DWT is to deliver training in the workplace in order to facilitate the development of individuals. Workplace training may or may not be derived from the formal DSAT process.

**Outputs/tasks.** The main outputs and tasks for a typical DWT are listed below but this will vary according to the requirements of the Service and cap-badge. Dependent on the training environment in which the DWT is employed, the emphasis may shift from one tasking area to another or there may be additional specialist requirements within a particular tasking area:

- Identify subordinates’ training needs.
- Plan, prepare and deliver informal on-the-job training and development of subordinates.
- Plan, prepare and deliver formal training objectives in accordance with the relevant Learning Specifications or Workplace Training Statement.
- Plan and support individual learning using inclusive learning strategies.
- Support continuous improvement of training through:
  - Assisting in the internal validation of unit-run training courses\(^{186}\).
  - Engaging in Continuing Professional Development (CPD) activities for both trade and workplace trainer roles.

**Training and competence.** The DWT competence is achieved through passing the Defence Train the Trainer (Workplace) course. The training is linked to the DTCF competencies.

**Competencies.**

- **Group 1:** Understanding the role of the trainer.
- **Group 2:** Planning and preparing learning and development (L&D) for the training environment.
- **Group 3:** Planning and preparing learning and development (L&D) for the work environment.
- **Group 4:** Facilitating learning and development (L&D) in the training environment.
- **Group 5:** Facilitating individual L&D in the work environment.

\(^{186}\) During the InVal process trainers or trainees may highlight issues with the training content, e.g. pertaining to currency or relevance. In this case it is essential that any are highlighted shortcomings to the Chain of Command, so that the DSAT process can be used to make the necessary changes. Alterations to any part of the training documentation can only be achieved by following the appropriate formal change processes which must be authorised by the Training Requirements Authority (TRA) and carried out by the Training Delivery Authority (TDA). Trainers must be absolutely clear on boundaries when adjusting training content.
- Group 7: Maintaining and improving quality standards.
- Group 9: Employing functional skills.
GUIDANCE AND TORs FOR DEFENCE HIGHER EDUCATION TRAINERS

Description and role

1. The role of Defence Higher Education Trainer (DHET) is defined in JSP 822, Part 1, Chapter 4, Section 4.1.

2. As an HE Trainer, your role is similar to that of the standard Defence Trainer. You will be responsible for the planning, preparation, delivery and assessment of group learning as well as planning and supporting learning with individual trainees, but since you will be working at a Higher Education level you are likely to need greater focus on specific delivery and facilitation techniques such as guided discussion and scenario-based activities. Dependent on your particular work context, there may also be less emphasis on management of trainee attitudes and behaviour, and the administration of trainee records and reports, compared with the standard Defence Trainer role.

Minimum training requirement

3. JSP 822, Part 1, Chapter 4, Section 4.1 gives details of pre-employment training.

Accreditation

4. The DHET is accredited with DAO with a L3 Award in Facilitating Learning.

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\[187\] Also referred to as ‘HE Lecturers’.
DEFENCE HIGHER EDUCATION TRAINER – TERMS OF REFERENCE

Role purpose. DHETs/HE Lecturers are employed for their breadth and depth of specialist knowledge and assist with the delivery/facilitation of the academic content of training courses.

Outputs/tasks. The main outputs and tasks for a typical DHET are listed below but this will vary according to the requirements of the Service and cap-badge. Dependent on the training environment in which the DWT is employed, the emphasis may shift from one tasking area to another or there may be additional specialist requirements within a particular tasking area:

- Planning, preparing and delivering group learning in accordance with the relevant Learning Specifications.
- Planning and supporting individual learning using inclusive learning strategies.
- Conducting training administration in accordance with local unit requirements.
- Supporting continuous improvement of training through:
  - Assisting in the internal validation of training courses.
  - Engaging in Continuing Professional Development (CPD) activities.

Training and competence. The DHET competence is achieved through passing the Defence Higher Education Trainer course. The training is linked to the DTCF competencies.

Competencies.

- Group 1: Understanding the role of the trainer.
- Group 2: Planning and preparing learning and development (L&D) for the training environment.
- Group 4: Facilitating learning and development (L&D) in the training environment.
- Group 7: Maintaining and improving quality standards.
GUIDANCE AND TORs FOR DEFENCE TRAINER SUPERVISORS

Description and role

1. The role of the Defence Trainer Supervisor is defined in JSP 822, Part 1, Chapter 4, Section 4.1.

2. As a DTS you will be responsible for the supervision and development of Defence Trainers, and potentially new DTS, allocated to you. This will typically include the following:

   a. manage/deliver the induction and workplace training for newly trained Defence Trainers.

   b. mentor and coach Defence Trainers and/or new DTS.

   c. maintain training delivery standards through routine observation and monitoring of Defence Trainers.

   d. support CPD opportunities for yourself and others.

   e. carry out legacy assessment iaw with JSP 822, Part 1, Chapter 4, Section 4.1.

   f. manage/deliver the induction and workplace training for newly trained DTS.

3. The DTS is central to the success of the development of Defence Trainers. New trainers need to feel confident, particularly in the first few months of their new job that they can try out their newly learned skills, make mistakes and learn from them. For Defence Trainers (Phase 1 or 2), while they will have successfully completed pre-employment training, they will still need your guidance and support so that they can achieve the Defence Trainer (Ph 1 or 2) Level 2 (Practitioner) competence through completion of a Workplace Training Statement (WTS). Once this is achieved, they will need regular feedback and support to identify and set goals for further professional development.

4. You will be awarded DTS Level 1 (Foundation) on successful completion of the residential training. For DTSs in a Phase 1 or 2 training establishment, you will need to complete your own WTS so that you can achieve the DTS Level 2 (Practitioner). Defence Trainers (Phase 1 or 2) are mandated to complete a WTS which you will be responsible for overseeing. Service Commands may also mandate that Defence Trainers (Phase 3) and Defence Workplace Trainers also complete the Defence Trainer (Ph1 or 2) WTS but this is not a requirement of the DTC Direction. You may then be required to act as a mentor and supervisor to other newly trained DTS. The same principles apply to the supervision of DTS as to Defence Trainer; learning from mistakes is often the best way to learn, but individuals will still need the support and guidance of a qualified and experienced DTS to help them reflect on their actions and identify areas for improvement.

Minimum training requirement

5. JSP 822, Part 1 Chapter 4, Section 4.1, gives details of pre-employment training
Professional development

6. DTS competencies are graded according to 3 different levels of professional development: Foundation, Practitioner and Advanced Practitioner. On successful completion of the DTS course, you are awarded the JPA competence DTS Level 1 (Foundation). Completing the WTS and the Defence Trainer Supervisor Portfolio (DTSP) gains you a further JPA competence award of DTS Level 2 (Practitioner). DTS Level 2 Practitioner is only mandated for those supervising Defence Trainers (Phase 1 or 2). You then have the opportunity to progress to JPA competence DTS Level 3 (Advanced Practitioner). Progressing to DTS Level 3 (Advanced Practitioner) is not mandated by the DTC Direction.

7. In order to achieve Defence Trainer Supervisor Level 3 (Advanced Practitioner), you will need to identify ways in which you can provide the appropriate evidence of your advanced knowledge and skills\textsuperscript{188}.

Accreditation

8. No accreditation is currently planned for the DTS course.

Working practices

9. The DTC Direction mandates an assessment of level of competence as part of the induction process. For a new Defence Trainer (Phase 1 or 2) at Level 1 (Foundation), completion of the initial part of their Defence Trainer Portfolio (DTP) will satisfy this requirement. You are to conduct observations iaw the DTC Direction. The first formal observation should be conducted at an early stage and signed off in the DTP – it will count as the assessment of how the trainer has developed. It is not another assessment of course competence. As this is part of the DTP, the assessment is included as evidence of induction and mentoring in the DTP so does not need to be recorded in unit induction records as well. Whilst Defence Trainers (Phase 3) do not complete a DTP, they still need to be observed and supervised by a DTS iaw the DTC Direction.

10. You may also be required to arrange an assessment of level of competence for:

   a. individuals who are returning to a training delivery role having previously qualified, e.g. legacy trained military personnel or civilian staff with equivalent or higher teaching qualifications.

   b. individuals who have been absent from the training environment for a period of 6 months or more, e.g. on detachment or operational tour.

11. If you deem that the individual’s skill set is below the required standard set by DTTT Phase 1 and 2 or DTTT Phase 3 then you should advise the DTM that they should complete the relevant training course. If they are assessed as competent/acceptable, they may only need to complete refresher training and then engage in ongoing CPD. More details on legacy assessment are contained in JSP 822, Part 1, Chapter 4, Section 4.1.

\textsuperscript{188} Each training unit should identify what an Advanced Practitioner looks like for their own development and business needs. It is recognised that there is still work to be done to develop guidance for SCs to understand what CPD could be undertaken to prove that an individual has reached the level of DTS AP. This will be carried out in TY 17/18.
Supervising the completion of the Defence Trainer Portfolio (DTP)

12. Following pre-employment training, Defence Trainers (Phase 1 or 2) are awarded the JPA Defence Trainer (Ph 1 or 2) Level 1 (Foundation) competence for their role. In order to reach Defence Trainer (Ph 1 or 2) Level 2 (Practitioner), they must successfully complete the WTS in accordance with the DTC Direction. The WTS is an important part of the training and development process because it makes sure that individuals can relate what was learned in the classroom to the realities of the training environment. It therefore builds on the pre-employment training, allowing individuals to master newly learned skills and to gain experience with real trainees, while still enjoying the support and guidance of an experienced DTS. Successful completion of WTS means that the individual has reached a sufficient level of competence to work without supervision. The WTS is divided into two specific areas:

   a. **Induction.** All training establishments are very different, not least because they all have very different types of trainees, in terms of age, experience, Service and cap badge. During pre-employment training, Defence Trainers and DTS will have covered in general terms areas such as discipline, welfare and learning support. Induction helps individuals to identify how their own unit deals with these areas and to get to know the local points of contact they can call on when their trainees need help.

   b. **Skills development.** This gives newly trained trainers a chance to work through some coaching and feedback sessions with their DTS and is designed to help them develop their skills as a trainer. They will have discussed their current strengths and areas for development with their Syndicate DS during pre-employment training. You should use these as a starting point to work with them to develop and improve their skills.

13. Detailed guidance on the supervising the completion of the DTP is at Annex J.

Supervising Defence Trainers

14. Defence Trainers in all Phases of training are to be routinely monitored to ensure that they are complying with Defence and single Service policy. You should conduct a formal observation every six months for each Defence Trainer allocated to you, providing coaching and developmental feedback in order to complement the appraisal process and support trainer development. You should ensure that Defence Trainers are:

   a. complying with the relevant course documentation, i.e. adhering to the requirements in the Learning Specification (LSpec), Assessment Specification (ASpec) and the Assessment Strategy (AStrat).

   b. using an appropriate range of active teaching methods and media to ensure a learner-centred, inclusive training environment.

   c. conducting assessments in a valid, fair and reliable manner.

15. These formal observations are to be recorded as they may be used to support first, second and third party audit activities, including Ofsted inspections.

16. Trainers should also be encouraged to learn from each other, through informal peer to peer observation and feedback. Defence Trainers should expect their peers to routinely visit
their lessons to learn from their observations and to provide constructive feedback. This will promote the sharing of good practice and will also foster the development of supervisory skills for the future.

17. Monitoring and observation should be seen by Defence Trainers as a positive, developmental activity rather than a judgemental assessment. You should therefore apply the following guidelines:

a. **Occasion of visit.** Make sure that the individual knows in advance when and how the observations will take place. If an unannounced visit is made no formal assessment would normally take place other than verbal feedback (unless unprofessional conduct has been witnessed).

b. **Feedback.** Feedback may be given by the observer if the situation merits it but should not be expected on each, and every occasion. The reason for the observation may be for the observer’s own education and professional development, e.g. in the case of peer-to-peer observation.

c. **Classroom management.** Observers should respect that the Trainer is in charge and will therefore abide by their class management and will not interfere in the process of teaching. The observer may need to leave the lesson part way through and this will be done discreetly.
DEFENCE TRAINER SUPERVISOR (DTS) – TERMS OF REFERENCE

Role purpose. The DTS is a key enabler to the Defence Trainer Capability (DTC) model and central to the success of the development of the Defence Trainer, providing the supervision and guidance needed to monitor performance and support mandatory work-based learning and Continuing Professional Development (CPD).

Outputs/tasks. The DTS is likely to have other diverse roles and responsibilities within the unit, including instructional duties of their own. The Chain of Command should be aware of the additional workload imposed when carrying out Defence Trainer Supervisor functions and ensure that sufficient time is allocated for DTS to carry out their supervisory duties. Supervision of Defence Trainers will typically include the following tasks and responsibilities:

- Supporting the Defence Trainer Manager (DTM) in the implementation of DTC Direction.
- Overseeing completion of the Defence Trainer Workplace Training Statement (WTS) for Defence Trainers (Phase 1 or 2).
- Carrying out legacy assessments of Defence Trainers and DTS to establish requirement for further training.
- Supporting the professional development of Defence Trainers through:
  - Delivery and facilitation of induction.
  - Provision of developmental feedback based on trainer performance.
  - Identification and promotion of trainer-related Continuing Professional Development (CPD).
- Supporting the professional development of DTS through:
  - Delivery and facilitation of induction.
  - Provision of developmental feedback based on DTS performance when conducting Defence Trainer feedback sessions.
  - Identification and promotion of DTS-related CPD.
  - Application of coaching techniques.
  - Quality assurance and maintenance of instructional standards through observation and monitoring.
  - Overseeing newly qualified DTS completion of the DTS WTS.
  - Mentoring other Defence Trainer Supervisors.

Training and competence. The JPA DTS competence is achieved through passing the Defence Trainer Supervisor Course and, for DTSs in Phase 1 or 2 training, completion of
the DTS WTS in accordance with the DTS Formal Training Statement (FTS). The JPA competences DTS Level 1 (Foundation) and DTS Level 2 (Practitioner) are awarded.

**Competencies.** DTSs should display the following DTCF competencies as a result of their prior training and experience and should also demonstrate these competencies within the context of the DTS role:

- **Group 1:** Understanding the role of the trainer.
- **Group 2:** Planning and preparing learning and development (L&D) for the training.
- **Group 3:** Planning and preparing learning and development (L&D) for the work environment.
- **Group 4:** Facilitating learning and development (L&D) in the training environment.
- **Group 5:** Facilitating individual L&D in the work environment.
- **Group 7:** Maintaining and improving quality standards.
- **Group 8:** Leading learning and instruction in the training environment.
GUIDANCE AND TORs FOR DEFENCE TRAINER MANAGERS

Description and role

1. The role of the Defence Trainer Manager (DTM) is defined in JSP 822, Part 1, Chapter 4, Section 4.1.

2. As a DTM, you will need to be familiar with all aspects of DTC Direction, the DTCF and any single Service policies that apply within your unit. As the focus for DTC, you will typically be responsible to the chain of command for the implementation of DTC Direction, the functional management of the DTS and coordination of trainer-specific CPD. You will also be the establishment lead for the continuing improvement of the unit’s system for managing Defence Trainers and DTS. An understanding of DSAT is essential.

3. Your role is critical in creating and maintaining a culture of continuous improvement in the unit. Training delivery duties should be seen as a privilege and career enhancing, and so the status of the trainer should be overtly valued and emphasised. There should be an expectation that trainers will perform to the highest standards and there should be incentive for high performance. CPD opportunities should be provided at all levels, and these should promote the adoption of good practice from across the Defence and FE sectors, and the exploitation of modern techniques and learning technologies.

Training

4. JSP 822, Part 1, Chapter 4, Section 4.1, gives details of pre-employment training.

Accreditation

5. There is no accreditation currently in place for the DTM training which is delivered as part of the DSAT (Managers) course.

WORKING PRACTICES

Management of training delivery staff

7. Commanding officers of training establishments are responsible for ensuring that all personnel, military and civilian, are trained, qualified and managed in accordance with Defence and single Service policies. As the DTM, you may have partial, or full, responsibility for providing a holistic approach to the management of training delivery staff.

Staff selection

8. Attracting high calibre training staff. Training delivery duties need to be seen as an attractive and career enhancing opportunity to encourage high-calibre volunteers to apply. While potential trainers will normally be identified by their chain of command through

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189 Where there is no DTM on a unit, these TORs may be carried out by a SQEP DTS.
190 This is a coordinating rather than a supervisory role - the DTM is not expected to duplicate the role of the DTS.
appraisal\textsuperscript{191} and reporting processes, it is in the interests of the training establishment if trainers are volunteers rather than ‘pressed’. You should therefore aim to highlight and promote the benefits and incentives linked to specialist training delivery duties both within the unit and externally wherever possible. As an example, some training delivery posts offer significant elective accreditation possibilities, with the opportunity to achieve national teaching qualifications and professional recognition in the FE sector; this could be widely promoted on orders but also on career courses, with signposts in place to direct interested parties to further information.

9. **Identifying potential DTS.** The DTS role is not necessarily a full time employment role and may be carried out in addition to other training duties. You may therefore need to identify potential DTS from within your existing staff in order to maintain a suitable complement of supervisory staff. Potential DTS should be qualified Defence Trainers who have ideally achieved the Advanced Practitioner level.

10. **Selecting Defence Trainers.** Some training establishments may require the DTM to organise or provide support to centralised selection cadres to explicitly test individuals’ aptitude as a potential trainer within that specific training context. Equally, you may be required to assist in the selection process for civilian or contracted training staff. Strong leadership and role modelling are critical attributes for a Defence Trainer in any phase of training; the selection process should also take into account the likely needs and expectations of the trainees in that environment. Additional considerations should include:

a. **Operational experience.** Individuals returning from an operational tour may be identified for full time training delivery duties in order to ensure currency and credibility in training; however, they should not assume these duties until they have had a suitable period of time to re-adjust to the non-operational environment.

b. **Civilian Defence Trainers.** Selection of civilian Defence Trainers will take place through the normal employment interview process, in which they should be assessed for their suitability to deliver training within specific environments, with particular emphasis on training delivery competence. The minimum qualifications and training for a civilian Defence Trainer are the same as for Service personnel and are set out in JSP 822, Part 1, Chapter 4, Section 4.1.

c. **Contracted staff.** Contracted or agency staff employed in any training delivery role are required by the DTC Direction to meet the same level of competence and to hold the same requisite qualifications, or their civilian equivalent, as Defence personnel. The chain of command must satisfy itself that the contractor is qualified, at the appropriate level of competence, and has undertaken any required training.

**Staff development**

11. **Staff development** is based on principles which recognise the crucial links between centralised training, workplace learning and continuing professional development (CPD). Following assignment, Defence Trainers should develop professional competence through a pipeline of appropriate pre-employment training, induction, workplace learning and CPD.

\textsuperscript{191} See Section on Selecting Personnel for Trainer Duties in JSP 757.
12. DTM are responsible to the chain of command for ensuring that there are clear and comprehensive systems in place to manage training delivery staff development, which will typically include the following:

a. Ensuring that pre-employment training is completed in accordance with the DTC Direction.

b. Delivery of an induction programme to all training staff immediately upon employment.

c. Completion of the Workplace Training Statement (WTS) iaw the DTC Direction.

d. Regular monitoring and support for Defence Trainers by qualified DTS throughout their employment.

e. Planning and provision of regular CPD for all training staff.

f. Maintenance of staff development records for the purpose of performance management, appraisal, audit and inspection.

13. **Pre-employment training.** All individuals are required to achieve the appropriate pre-employment standards prior to joining training organisations. Details of the minimum pre-employment training requirement for each role are provided in the DTC Direction. Where training delivery staff already in post do not meet the requirements of Defence Direction, action plans must be agreed to bring these staff to the necessary level. Other training delivery skills or related competences may also be required, in which case the Chain of Command or Heads of Profession may set professional requirements in excess of this minimum.

14. **Induction.** Induction training forms a vital link in the process of orientation to a new environment and is the responsibility of the employing unit. Induction for Defence Trainers is particularly important as it may be the individual’s first experience of a training establishment. Induction should therefore provide the opportunity for individuals to gain insight into the organisational climate and training culture and to align their expectations with that of the organisation. Induction should, where possible, be tailored to the individual and should typically cover the following areas:

a. **Pre-arrival.** Engaging with new staff prior to joining can aid the process of induction in terms of managing expectations and setting the tone of the relationship between the individual and organisation. New Defence Trainers (Phase 1 or 2) complete a pre-residential online training package which provides an introduction to the Defence training community but unit contact pre-arrival will also assist in setting the specific context, determining their previous experience and establishing any training needs in advance. A DTS should be allocated and an induction pack with welcoming letter should be dispatched.

b. **On arrival.** An arrival interview and briefing should be conducted to include the organisation’s vision and purpose, support networks, the demands of the role, the individual’s terms of reference (TOR) and quality management procedures. For newly qualified Defence Trainers (Phase 1 or 2) and DTS in Phase 1 or 2, some elements of the WTS which are designated as Unit Induction (UI) may be covered by the standard unit induction package e.g. introduction to welfare support networks, unit discipline...
policies. Where this is the case, there is no need to repeat the training but you should ensure that all elements designated as UI in the Defence Trainer and DTS WTS are either covered by the standard unit induction package or are provided as an additional module of induction.

c. **Assessment of competence.** As part of the training establishment induction process, an initial assessment of level of continuing competence is to be undertaken (within 3 months of completion of pre-employment training including any supervisory care training). This is to be conducted by an appropriately qualified DTS or equivalent. For newly qualified Defence Trainers (Phase 1 or 2) and DTS in Phase 1 or 2, this is included within the requirements of the WTS. For Defence Trainers (Phase 3), previously qualified staff arriving in post, or those returning from an extended period of absence, detachment or operational tour, separate arrangements must be made to observe and assess their competence in the workplace at the earliest opportunity.

15. **Workplace Training Statement (WTS).** For those who complete a WTS, responsibility for its completion lies with the employing unit and the individual. It is critical in ensuring the initial transfer of learning from the pre-employment training course into the workplace context. Pre-employment training provides trainers with an introduction to the learning theories and techniques so that they can start to use their trainer skills under supervision, but these skills must then be monitored and developed in the context of the relevant training establishment if the individual is to develop as an effective trainer. New trainers must feel confident, particularly in the first few months of their new employment, that they have the support of their superiors, so that they can try newly learned skills and learn from their mistakes, using a blend of pre-determined tasks and/or problem solving as well as learning from on-the-job experience and coach/mentor feedback. Completion of the WTS ensures that individuals move from the Foundation level to the Practitioner level. Note there is no mandated WTS for Defence Trainers (Phase 3).

16. The WTS is completed using the **Defence Trainer Portfolio (DTP)**. It details mandatory elements such as unit induction, e.g. reading and signing local unit policies; introduction and signposting to local support systems relating to the training environment and completion of formal observations in the workplace with individual reflection. These observations must be conducted and recorded by a qualified DTS, who will provide developmental feedback and assist the individual in achieving the JPA Defence Trainer (Ph 1 or 2) Level 2 (Practitioner) competence. Observations conducted as part of DTTT WT portfolio completion should not be conducted less than 1 month apart. Conducting observations too close reduces the reflective learning opportunities that the WT portfolios were designed to create. Supervisor guidance for aiding the completion of the DTP is contained at Annex J.

17. Newly-trained DTS in Phase 1 or 2 establishments are also required to complete a WTS using the **Defence Trainer Supervisor Portfolio (DTSP)** which gains them the JPA DTS Level 2 (Practitioner) competence.

**Monitoring and support**

18. Defence Direction requires that appropriately qualified personnel monitor the continuing competence of their training delivery staff and that an individual record of monitoring is maintained. You must therefore ensure that performance of your Defence Trainers is monitored at regular intervals by DTS or equivalent qualified staff. This should be conducted at least twice a year in line with the relevant MPD and/or unit performance appraisal and reporting procedures.
19. Functional management of DTS is important in order to ensure that routine supervision, monitoring and support takes place in accordance with the DTC Direction requirements. The ratio of Defence Trainers to each DTS will be set locally\(^{192}\) and will be based on unit structures and the capacity of DTS to carry out supervisory duties in addition to other primary duties. You will need to be aware of staff workloads and ensure that sufficient time is allocated for DTS to carry out their supervisory duties, which should be clearly articulated as part of the individual's job description and annual objectives.

**CPD**

20. The coordination of CPD activity is a critical element of your role as DTM. Defence Direction mandates annual CPD as part of the DTC\(^{193}\). Where practicable, you should provide CPD opportunities for legacy trained staff to complete the elements of the Defence Trainer (Phase 1 or 2) or DTS development pathway. This provides both with the prerequisite to achieving Level 3 (Advanced Practitioner), which should ultimately be the goal of all training delivery and supervisory staff.

**Career management**

21. In order to maintain the valued status of the training delivery role there must be suitable reward for Defence Trainers and DTS who demonstrate strong performance. Training delivery assignments should be career enhancing and, while you may not be involved in the appraisal and overall career management of all delivery staff, you should be in a position as DTM to provide opportunities for further professional development. Incentive and reward will clearly only be effective if it is relevant to the individual's personal goals, but where individuals are performing to a high standard in training delivery, the provision of funding and/or study time for a higher level qualification may be a suitable option, which will benefit both the individual and the organisation.

22. Those most suited to the training delivery role should be encouraged to return, at a suitable career point, to supervisory and management levels, which in turn provides maximum return on investment in training and professional development.

**Maintaining records**

23. Defence policy requires training establishments to have a formal process where auditable records of assessments for training delivery staff are maintained. This will include the recording of unit induction, WTS completion and annual monitoring. Records are required to:

   a. provide the individual and line management with a means of monitoring progress from Foundation to Practitioner and Advanced Practitioner.

   b. support the appraisal process and identify areas for further development.

   c. provide supporting evidence of professional development activity during audit and inspection.

24. Defence Trainers (Phase 1 or 2) and DTS in Phase 1 or 2 are to complete a portfolio as part of their workplace training but this should not be retained as a unit record, as it is

\(^{192}\) For example, in Unit Standing Orders or Training Quality Manual.

\(^{193}\) See JSP 822, Part 1, Chapter 4, Section 4.1 for details.
designed to be a resource for the individual. A separate copy of the final page of the portfolio should be kept, which lists the date of WTS completion and the signature of the supervising DTS.
DEFENCE TRAINER MANAGER (DTM) – TERMS OF REFERENCE

Role and purpose. The DTM is responsible for the management of staff delivering training and plays a critical role in creating and maintaining a culture of continuous improvement in the unit.

Outputs/tasks. The DTM appointment is likely to be held in addition to other primary management roles and responsibilities within the unit. The Chain of Command (CoC) should therefore be aware of the additional workload imposed when carrying out trainer management functions and ensure that sufficient time is allocated for DTM to carry out these duties. The DTM role will typically include the following tasks and responsibilities:

- Advising the CoC on and ensuring the implementation of DTC Direction.
- Functional management of DTS.
- Supporting the professional development of training delivery staff through:
  - Management of mandatory workplace training for Defence Trainers and DTS.
  - Coordination of trainer-specific Continuing Professional Development (CPD).
- Quality assurance and maintenance of training delivery standards through:
  - Implementation of unit self-assessment relating to the unit’s system for managing Defence Trainers and DTS.
  - Promotion of good practice.

Training and competence. The JPA Defence Trainer Manager competence is achieved through successful completion of the DSAT (Managers) course.

Competencies. The following DTCF competencies are linked to the DTM role and are covered in DTM training:

- Group 1: Understanding the role of the trainer.
- Group 2: Planning and preparing learning and development (L&D) for the training environment.
- Group 4: Facilitating learning and development (L&D) in the training environment.
- Group 7: Maintaining and improving quality standards.
Description and role

1. Policy direction on the role and responsibilities for COTE is set out in JSP 822, Part 1 Chapter 4, Section 4.1.

2. COTE will be held to account for ensuring the appropriate training, monitoring and professional development of personnel under their command who are engaged in training delivery duties. JSP 822, Part 1, Chapter 4, Section 4.1, gives direction on the minimum requirements for training and monitoring staff and for maintaining competence and currency.

3. COTE have special responsibilities and obligations that are quite different from those of normal commands, particularly for those commanding establishments and units that deliver Phase 1 and/or Phase 2 training. COTE must therefore understand current training issues impacting upon such units, for example supervisory care and the CO’s Risk Assessment. Guidance is provided in JSP 822, Part 1 on the requirements for development of a Commander’s Risk Assessments, a Supervisory Care Directive, a Unit Self-Assessment Report and Quality Improvement Plan.

Minimum training requirement

4. Pre-employment. JSP 822, Part 1, Chapter 4, Section 4.1, gives details of pre-employment training.

5. The COTE course covers aspects of Duty of Care and removes the need to attend the Care of Trainees (COT) course. However, where the COTE course is attended by a nominated deputy, the Commanding Officer will be required to complete the COT course.

Accreditation

6. There is no accreditation for the COTE course.

Working practices

7. Management of training delivery staff. COTE are responsible for ensuring that all personnel, military and civilian, are trained, qualified and managed in accordance with Defence and single Service policies. The overarching framework at Figure 1 illustrates the key elements which together provide a holistic approach to the management of training delivery staff. A Defence Trainer Manager (DTM) will be assigned or locally appointed and should be responsible to the chain of command for the implementation of DTC Direction. Details of the DTM role are at contained in Annex G.
8. **First line assurance.** COTE must provide TESRRR with assurance that Defence Trainers are receiving training and professional development in accordance with Defence Direction.
GUIDANCE ON CPD ACTIVITIES FOR STAFF IN TRAINING ESTABLISHMENTS

What is CPD?

1. CPD stands for Continuing Professional Development. It is any activity that updates your knowledge or develops your skills in your job role.

Why do CPD?

2. CPD updates your knowledge and skills, keeping you current and preparing you for the future. It benefits you, the individuals you are training and the operational effectiveness of your organisation. Evidence of your CPD can also count towards gaining JPA Level 3 (Advanced Practitioner) and recognised civilian qualifications.

How much CPD should I be doing?

3. Defence Direction mandates that those working in a Defence training delivery role should complete a minimum of 5 hours’ CPD per year. The focus of CPD is firmly on you as an individual, so one size doesn’t fit all. You will need to decide what type and how much CPD is best for you at a particular stage in your career, but you can get help from your supervisor or line manager, or by sharing and comparing ideas with colleagues.

What counts as CPD?

4. The answer is a lot of what you are doing already without perhaps realising it. The Plan, Develop, Support, Share (PDSS) model at Figure 2 summarises the main areas that constitute CPD for an individual working in a training delivery role.
5. Here are some examples of CPD activities:

<table>
<thead>
<tr>
<th>Plan</th>
<th>Identify your objectives during annual appraisal and producing a CPD action plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Working with your DTS to turn constructive feedback into a CPD action plan.</td>
</tr>
<tr>
<td></td>
<td>Working with a professional body to develop a CPD action plan.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Develop</th>
<th>Attending organised training and development activities in your unit that develop you in your role as a Defence Trainer or DTS (e.g. a workshop, seminar or study day. Topics might include: good practice in training, coaching, learning technologies, evidence based teaching (EBT)).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Developing your skills in training by working towards a relevant civilian qualification such as the Level 4 Certificate in Education and Training, the Level 4 Certificate in Coaching or QTLS.</td>
</tr>
<tr>
<td></td>
<td>Revising and updating your subject matter specialisms (i.e. what you teach).</td>
</tr>
<tr>
<td></td>
<td>Reading or research (including browsing the internet) that is relevant to your role in training. A list of useful websites is at the end of this list.</td>
</tr>
<tr>
<td></td>
<td>Asking a colleague to observe you in your work and give you constructive feedback.</td>
</tr>
<tr>
<td></td>
<td>Being observed by your DTS and sharing feedback.</td>
</tr>
</tbody>
</table>
### Support

- Observing a colleague and giving them constructive feedback.
- Coaching and advising less experienced colleagues.
- Providing constructive feedback and action points during the Internal Validation (InVal) process.

### Share

- Taking an active part in a training team meeting that discusses more than just routine admin points e.g. good practice, training evaluation results, suggested changes to procedures and policy.
- Organising a training/development activity for your training team.
- Taking part in any post-exercise reporting (PXR), after-action reporting (AAR) or self-assessment reporting (SAR) activity.
- Visiting another training establishment or unit to look at the methods and approaches they use.

### What CPD activity should I choose?

6. Some CPD activities, such as workshops, seminars and team meetings, will be directed and organised by your unit. Other activities will be your individual choice and these should focus on personal abilities, goals and opportunities. It is important to plan these individual activities to make sure that you get the most from the time spent on CPD, by focusing on areas that will benefit you in your job role and your career.

7. Your CPD plan should map out what you personally need to achieve in order to reach your development goals. The plan is specific to you and so there is no set format, but a Defence planning template is available from DCTS if you wish to use it. To create the plan, you need to do the following:

   a. **Step 1: Identify your goals.** One of the problems that people face when trying to improve their performance is defining what they want to achieve and how they need to develop. It will help to discuss your goals with someone else, e.g. a DTS, your line manager, or you may wish to seek advice from a professional body that you are a member of. You may also find that it helps to create a performance profile when setting goals. DCTS has a proforma to help with this.

   b. **Step 2: Identify your learning and development needs.** Having identified your goals, the next step is to break them down into the skills and knowledge you need to develop in order to achieve them. Ask yourself the following questions in relation to each of your goals:

      (1) What skills do I need to be able to do, or what do I need to be able to do better?

      (2) What new knowledge do I need?

   c. **Step 3: Identify specific CPD activities.** Once you have identified your goals and defined your needs, your next step is to decide what activities will meet those needs. When defining your activities, try to make them clear and explicit. If others are
involved, identify who they are and state when things are going to happen. It is important that you identify a timescale for each activity to help yourself prioritise events and be realistic about what you can achieve. If you are considering a course of study, check how much time and resources are available to you – remember, if you have a clearly defined and logical CPD plan, you are more likely to be successful in gaining support from your Chain of Command.

**Should I keep a record of my CPD?**

8. It is very important for you to record your CPD in order to:

   a. Show that you have completed the mandatory 5 hours per year – your unit will be expected to provide this evidence to audit/inspection teams, including Ofsted.

   b. Provide evidence for gaining other civilian qualifications.

   c. Demonstrate your commitment to professional development to any professional bodies that you are a member of.

9. Your CPD record should be a summary of all the major CPD activity you engage in, together with your reflection on the outcomes, i.e. what you have learned and how you are applying this. You should fill the record in regularly as you undertake key CPD activities, or soon after. There is no set format for recording your CPD, but as a minimum, your record should include:

   a. dates of development activities.

   b. number of hours spent on development activities.

   c. description of development activities.

   d. what you have learned.

   e. how you are applying or will apply what you have learned.
GUIDANCE ON COMPLETION OF THE DEFENCE TRAINER PORTFOLIO (DTP)

Introduction

1. Newly qualified Defence Trainers (Phase 1 or 2) will arrive in units with a developmental plan which will detail areas for development and individual goals. The planning and delivery of work-based development should take these individual needs into account.

2. The training received on the DTTT Phase 1 and 2 course prepares new Defence Trainers to deliver training under supervision. Defence Trainers must receive support and guidance in the planning and delivery of lessons. Their lesson delivery should be monitored and observed by a qualified Defence Training Supervisors (DTS) at regular intervals. Through completion of the objectives in their Defence Trainer Portfolio (DTP), the DTS and the chain of command should be able to assess with confidence when the Defence Trainer (Phase 1 or 2) is suitably competent to deliver training without supervision.

3. The layout of the Defence Trainer’s DTP ensures that workplace training is done in such a way that it allows for engagement and development with the DTS. It contains the following:

   a. **Part 1: Complete Workplace induction.**

      (1) **Key objectives/learning.** This gives a simple one-line explanation of the tasks to be completed in the workplace.

   b. **Part 2: Defence Trainer Skills Development.** This is a detailed guide for lesson observations and observation of the conduct of summative assessment. It focuses on the following areas:

      (1) Lesson planning.

      (2) Lesson delivery.

      (3) Assessment of Learning.

      (4) Professional development.

   c. **Part 3: DTP Completion.** This part guides the DTS and line manager in the respective activities for signing off completion of the DTP elements, and for subsequent JPA action.

   d. **Part 4: What Next?** A guide to CPD to assist the Defence Trainer (Phase 1 or 2) to progress to gain the DTTT (Ph 1 or 2) Level 3 (Advanced Practitioner) JPA competence.
Introduction

1. The Armed Forces have a unique training ethos. It is a combination of firm discipline, high quality rigorous training, maintenance of high standards, a sense of fair play, treating the trainee as an individual and encouraging people to achieve tasks and skills far beyond those that they first thought themselves capable of. Training is successful if it results in a high level of skill, self-discipline, initiative and obedience to orders in the moment of crisis. Successful training also delivers independent learners, who are motivated to continue to learn through life and thus are able to deal with the complex, the uncertain and the unexpected.

2. Defence training is characterised by a strong sense of purpose, relevance to the operational environment and the will to develop the core Values and Standards of the Armed Forces in the individual. Skill, strength and forbearance are admired and encouraged; there is no place for cruelty, callousness or meanness. A strong sense of appropriate humour pervades the way in which this training is delivered. This defines the challenge to those who deliver Defence training, each of whom will be held as a role model to the trainee in all that they do.

Purpose of the Code

3. The Defence Code of Practice for Trainers applies to all Service and civilian trainers employed by the Ministry of Defence. Underpinned by the core Values and Standards of the Armed Forces, it serves to unify and complement the various training courses provided for the different trainer roles, by setting out common standards of practice which are central to the delivery of Defence training. All trainers are expected to adhere to the Code’s ethos and meet the standards set out within it.

PART 1: STANDARDS FOR THE DELIVERY OF TRAINING

Inclusion in training

4. All trainees should be given the same opportunity to learn and achieve. The trainer promotes an inclusive learning culture by helping trainees to avoid or deal with different barriers to learning. This can present a challenge, particularly in Phase 1 and 2 training, to get the right balance between encouraging and supporting a weak trainee, whose true potential may only be faintly visible, and warning, perhaps even helping to discharge, those who are never going to achieve the required standard. Each case must be treated on its own merits and you should make every effort to motivate and support your trainees, but this should not be at the expense of the standards required to maintain operational effectiveness. In all cases, you should focus first on ‘training in’ rather than ‘selecting out’.

Respect in training

5. It is important that a relationship exists between the trainer and trainee based on mutual respect. Respect from a trainee cannot be demanded or expected; you must never
abuse your position of authority. Good trainers will continually seek to develop the trainee’s self-belief with constructive criticism and encouragement, and will naturally be afforded respect as a result. Physically striking or humiliating a trainee or the use of threatening, rude or abusive language is counterproductive and is not tolerated within the Armed Services.

**Sensible and achievable training**

6. Training must be progressive, safe and sensibly achievable. Safe training does not mean being over-cautious, unadventurous or dull but you must not push trainees faster than they can learn and they must be allowed time to learn from their mistakes. Consider your audience carefully when planning training, and make sure that your expectations take into account the background, military knowledge and experience of your trainees.

**Challenging training**

7. Phase 1 training by its very nature presents a considerable challenge to a young person but care should be taken to ensure that subsequent and further training also challenges every trainee mentally, physically and intellectually. If not, they may feel patronised and quickly become demotivated. This applies particularly to Phase 3 training, where trainees will have greater breadth of maturity and military experience. You should always acknowledge trainees’ previous experience and aim to provide sufficient challenge for all levels of background and ability.

**Safety in training**

8. If training is to be effective, it must include exposure to the conditions (real or simulated) that will be present in operations. This will often incorporate some level of risk. Whilst risk management is the duty of the chain of command, responsibility will also rest with the trainer in direct control of the activity. You must therefore manage risk in order to deliver training as safely as possible. Where you believe, in a particular situation, that the training benefits are outweighed by real risks to life and limb, you have a duty to step in and modify the training. Training safety will be enhanced by application of the following principles:

   a. **Risk Assessment.** Prior to conducting training, a risk assessment must be completed by a competent (qualified, experienced and current) individual. Nevertheless, you must always conduct your own assessment prior to the start of training and, if applicable, record any deviations from the lesson plan. You should continue to review that assessment during training in order to adapt to changing conditions (equipment, weather, tiredness, etc). If appropriate, trainees should be briefed on any changes in the plan resulting from a revised risk assessment.

   b. **Safety Instructions.** Before any training commences an appropriate set of safety orders/instructions are to be published and a safety briefing must always be given based on those orders/instructions. Repetitive training may be covered by standing orders, provided that these are briefed at regular intervals. Orders and instructions should include any actions to be taken in the event of an emergency.

   c. **Trainer/Trainee Ratios.** For many training activities, including adventurous training, weapons training and physical training, there will be a recommended ratio of trainers to trainees. You must be aware of the guidelines and plan the training accordingly.
**Competition in training**

9. Competition between individuals or teams involving mental or physical endeavour can be an excellent tool for improving performance, developing robustness and the desire to win. You should strive to encourage healthy competition in your training but, balance and care are always required to ensure that trainees are encouraged and motivated but not demoralised.

**Humour in training**

10. Humour is a powerful tool in the provision of effective training. You should, where possible, aim to make training fun so that a trainee will find it memorable and will be looking forward to the next session; however, care must be taken to avoid misdirected humour. Knowing where to draw the line can be difficult, particularly with trainees who you do not know as well as you know your colleagues. Anything that belittles trainees is definitely NOT appropriate and is almost certain to create a barrier to learning which will then have to be dealt with later. If in doubt about a remark, don't use it.

**Trainee welfare**

11. **Accountability in training.** A trainer is accountable for both the training and well-being of all trainees. This demands total commitment and a sense of responsibility. The successful trainer will be prepared to spend extra time coaching or providing informal tuition to assist trainees in overcoming barriers to learning. You should also be prepared to provide a sympathetic ear when trainees need to discuss issues outside of training, particularly (but not exclusively) in training environments where they are living away from home. You need to be able to signpost and refer trainees to specialist support as required.

12. **Relaxation for trainees.** All trainees need breaks if they are to get the most from training and time must be programmed in when they can rest, relax and recover. Strenuous training (both physical and mental) over a long period of time may lead to fatigue and therefore proper time for meals, rest and free time must be given to trainees.

**PART 2: STANDARDS FOR PROFESSIONAL CONDUCT IN TRAINING**

**Leadership**

13. Trainers are expected to set the highest standards of motivational and inspirational leadership at all times, and to demonstrate, by example, the same leadership expected on operations. A good trainer uses motivational feedback to develop trust and inspire confidence and self-belief in trainees. You should communicate enthusiasm, encourage perseverance and always be optimistic of trainee success. You must also have the moral courage to demonstrate sound principles, high personal standards, values and a strong code of ethics at all times; but particularly when making decisions under stress. Good leadership is vital in this respect and you should participate fully in the rigors and hardship of training and inspire your trainees through commitment and example.

**Equality in training**

14. All trainees must be accorded fair and equal treatment, whatever their rank, gender, sexual orientation, religion, social background, race or ethnic origin. No harassment, intimidation, abuse, humiliation or unlawful discrimination of any kind will be tolerated.
anywhere within the Armed Forces. You must lead by example: you should make it absolutely clear that you disapprove of any form of discrimination and you should foster an environment where a complaint can be made without fear of retribution.

**Discipline in training**

15. You must clearly understand your disciplinary powers as published in the orders and regulations of your organisation. Unofficial disciplinary procedures can be interpreted as bullying or as an abuse of authority and, for these reasons, all disciplinary action must be clearly recorded and open for inspection. Nevertheless, you should not defer giving reasonable but firm orders or taking appropriate action for fear that they will be challenged by a trainee on the grounds of, for example, harassment. Moral courage must be exercised at all times and any inappropriate behaviour or poor attitude/effort towards training must be challenged.

**Personal relationships in training**

16. The relationship between a trainer and a trainee is inevitably often a close one. Some trainees, particularly young recruits, can develop a sense of awe and hero worship that goes beyond professional respect and admiration. You must recognise this and not allow a situation to develop that might lead to an unhealthy abuse of your authority or give a trainee the opportunity to take advantage. Maintain a professional distance at all times and take care to ensure that you do not become over involved with any trainee. Failure to do so can lead to unacceptable personal relationships, accusations of favouritism or even allegations of misconduct.

**Prohibited practices**

17. Trainers working with trainees must not:

   a. pursue any personal or financial gain in dealing with trainees.

   b. accept gifts of any form, or value, from trainees for themselves or for others, to include charitable organisations, except when specifically authorised by the Commanding Officer.

   c. borrow money from or loan money to trainees.

   d. provide transport for hire to trainees.

   e. as part of their position of authority, sell any items, whether personal property or commercially obtained, to trainees; this does not apply to sales personnel of the PRI or NAAFI and its authorised concessionaires.

   f. deal with trainees on behalf of, or as an agent or sponsor for, any commercial enterprise. This includes encouraging trainees to do business with any commercial enterprise and/or referral to any commercial enterprises, as well as actual sales; this does not apply to the PRI or sales personnel of the NAAFI or its authorised concessionaires nor shall it be a violation to advise trainees of the service available through the NAAFI.
g. collect or take money from trainees for any reason, including cleaning funds, party funds, charitable contributions, etc (other than those authorised by the Commanding Officer).

h. cause trainees to perform any personal service.

i. enter into any public or private relationship with trainees, which are not required to accomplish the training mission; this includes, but is not limited to, gambling.

j. consume alcoholic beverages or in any way socially mix with trainees on or off camp other than at approved unit activities; off-camp these activities should be avoided where possible.

k. engage in any action or relationship which involves or gives the appearance of partiality, preferential treatment or improper use of rank or position for personal gain.

l. engage in any intimate or sexual relationship to include, but not limited to, dating, hand-holding, kissing, embracing or caressing.
Figure 1: Defence Code of Practice for Trainers
## LESSON/EVENT PLAN

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**Summary:**

**Lesson/Event Objectives:**

**References/more information:**

**Link to next Lesson/Event:**
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<td>Training Quality Policy</td>
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<td>Processes, sequences and interactions</td>
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<td>TQM scope and documentation of the MTS</td>
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<td>Exclusions from the TQM</td>
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<td>MTS planning</td>
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<td>Responsibility, authority and communication</td>
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<td>6</td>
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<td><strong>6.3 Trainee and trainer management</strong></td>
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<td><strong>6.4 Trainee Records</strong></td>
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<tr>
<td>7</td>
<td><strong>Assurance (Audit, Evaluation and Inspection)</strong></td>
</tr>
<tr>
<td>8</td>
<td><strong>Acquisition of Training solutions</strong></td>
</tr>
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</table>
DESCRIPTION OF COMMON SPECIFIC LEARNING DIFFICULTIES

1. It is recognised that there is a considerable overlap between the characteristics of neuro-diverse SpLD, particularly, dyslexia and dyspraxia which will sometimes co-exist in the same individual and manifest as similar symptoms. Particular difficulties include: spelling; acquiring fluent reading and writing skills; manipulating numbers; working memory; organisational skills; receptive and expressive language; oral and auditory skills; maintaining concentration and coordination. SpLDs covered in this Direction are:
   a. Dyslexia.
   b. Scotopic Sensitivity Syndrome.
   c. Dyspraxia.
   d. Dyscalculia.

2. Dyslexia relates to the development of literacy and language related skills. It is likely to be present at birth and to be life-long in its effects. It is characterised by difficulties with phonological processing, rapid naming, working memory, processing speed, and the automatic development of skills that may not match up to an individual's other cognitive abilities. It tends to be resistant to conventional teaching methods but its effect can be mitigated by appropriately specific intervention, including the application of information technology and supportive counseling. Dyslexia can be screened for and diagnosed using Dyslexic Adult Screening Test (DAST).

3. Scotopic Sensitivity Syndrome is a broadly defined visual perceptual disorder affecting primarily reading and writing activities. Because of this, it is sometimes categorised as a form of dyslexia. Individuals will experience distortions when they look at certain materials, particularly text. The distortion of text includes: blurring; movement of letters; words doubling; shadowy lines; shapes or colours on the page; and flickering. These symptoms are alleviated, by using individually prescribed coloured filters and/or lenses. Intuitive Colorimeter testing by qualified opticians can determine the presence of Scotopic Sensitivity Syndrome.

4. Dyspraxia is a form of Developmental Coordination Disorder (DCD) commonly affecting fine and/or gross motor coordination. While DCD is often regarded as an umbrella term to cover motor coordination difficulties, dyspraxia refers to those people who have additional problems in planning, organising and carrying out movements in the right order in everyday situations. Dyspraxia can also affect articulation and speech, perception and thought. Although Dyspraxia may occur in isolation, it frequently coexists with other conditions such as Attention Deficit Hyperactive Disorder (ADHD) and dyslexia. Testing for dyspraxia, particularly where it affects fitness can be conducted using the Rockport Walk.

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194 The conditions are interrelated and often show as, or are related to, dyslexia.
195 More information at: [http://www.dast.co.uk](http://www.dast.co.uk)
196 More information at: [http://www.dyspraxiafoundation.org.uk/dyspraxia-adults](http://www.dyspraxiafoundation.org.uk/dyspraxia-adults) and [http://www.brianmac.co.uk/rockport.htm](http://www.brianmac.co.uk/rockport.htm)
5. **Dyscalculia** is a condition that affects the ability to acquire arithmetical skills. Dyscalculic learners may have difficulty understanding simple number concepts, lack an intuitive grasp of numbers, and have problems learning number facts and arithmetic. Even if they produce a correct answer or use a correct method, they may do so mechanically and without confidence. Dyscalculia is like dyslexia for numbers. But unlike dyslexia, very little is known about its prevalence, causes or treatment\(^{197}\).

\(^{197}\) More information at [http://www.dyscalculia.me.uk/testing.html](http://www.dyscalculia.me.uk/testing.html) and [http://www.bdadyslexia.org.uk/about-dyslexia/schools-colleges-and-universities/dyscalculia.html#1](http://www.bdadyslexia.org.uk/about-dyslexia/schools-colleges-and-universities/dyscalculia.html#1)
1.5 Element 4: Assurance

Policy Sponsor: TESRRR, CDP

This Section of the Guidance outlines the Defence approach that allows training specialists to adopt a structured, methodical approach to the assurance of the training activity and the Training System as a whole.

The DSAT process

1. This Section provides Guidance on the processes and outputs associated with the assurance of training activity and the Training System as a whole which is Element 4 of the DSAT process, as illustrated in Figure 1.

![The DSAT Process Diagram](image)

Figure 1. The DSAT Process

Training assurance overview

2. Assurance is an all-encompassing term used to describe the evaluation, audit and inspection activities of the Training System. These activities are conducted by most stakeholders, including those internal to the Training System as well as by bodies external to it (thus ensuring independence and a lack of bias). Assurance activities do not focus solely on the

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198 Training, Education, Skills, Recruitment and Resettlement, part of Chief of Defence People, 8th Floor, MoD Main Building.

199 Assurance relies on robust data collection and analysis techniques. Training is provided during the relevant DCTS DSAT courses. Some Guidance is available at Annex B.

200 Principally, the TRA, the TDA, the Training Provider and external bodies such as Ofsted.
The activities (as shown in Figure 2) are:

a. **TNA, Stage 3 - TNE – 1.8.** This assesses and reports on the effectiveness of the TNA process as well as the ability of the implemented training solution to meet the Defence requirement. The TNE is conducted in 2 parts: evaluation of the process and evaluation of the training solution. The key output is an assessment of how well the TNA outputs contributed to the provision of a training solution that meets the Defence requirement. This completes the TNA process.

b. **Evaluation Strategy – 4.1.** The Evaluation Strategy is a document that will detail what training will be evaluated and how.

c. **InVal (4.1.1) and ExVal (4.1.2).** A specific sub-set of evaluation is Validation which is further split into InVal and ExVal. InVal examines whether the TOs are being met and ExVal uses both qualitative and quantitative data to determine the degree to which training prepares individuals/teams for the specified Role and whether the Role remains valid.

d. **1st party – 4.2.** 1st party audit and inspection is assurance activity conducted for internal purposes by all parties for the DSAT activities they undertake themselves. This will form the basis of an organisation’s self-declaration of conformity and is a key CI activity. CI is defined as recurring assurance activities that contribute to identifying improvements in the effectiveness and efficiency of training and the Training System.

e. **2nd party – 4.3.** 2nd party audit and inspection is assurance activity conducted by Defence organisations external to the activities that are within the scope of the audit or inspection. 2nd party assurance must capture the whole Training System not just the training activity. Examples of such activities are the SCs’ assurance teams who conduct 2nd party audits and inspections against the DSAT QMS and Common Inspection Framework (CIF) Key Questions.

f. **3rd party – 4.4.** 3rd party audit and inspection activity is conducted by organisations external to the MoD. Examples are the Ofsted inspections commissioned to examine Care and Welfare under statutory remit or a review of Skills Funding Agency provision.

3. **Responsibilities.** The following are most likely to fulfil these assurance roles/activities:

   a. **TRA:**

      (1) Evaluation Strategy.

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201 A list of mandated activities for collective training has not yet been devised. The Collective Training Policy at Part 1, Chapter 3, Section 3.1, will be reviewed in 2017 to assess which activities will be deemed mandatory.

202 Examples of such activity are 1st party audits against the DSAT QMS and self-assessment activities such as peer review.

203 Any deviation from the recommended delineation of responsibilities detailed on the DSAT Hierarchy of Activities should be recorded on the TrAD.
(2) ExVal of the training activity.
(3) Contribution to the MTS.

b. **TDA:**

(1) 2\textsuperscript{nd} party audit and inspection of the Training System (external to the training activity).
(2) Contribution to the MTS.

c. **Training Provider:**

(1) InVal based upon the Evaluation Strategy written by the TRA.
(2) 1\textsuperscript{st} party audit and inspection of the Training System (internal to the training activity).
(3) Contribution to the MTS.

d. **External agencies.** 3\textsuperscript{rd} party audit and inspection teams, external to Defence (e.g. Ofsted or Skills Funding Agency).

4. DSAT users must comply with the broad intent which is to ensure that, for training delivery, 1\textsuperscript{st} party audit and inspection are \textit{internal} to the delivery unit and 2\textsuperscript{nd} party audit and inspection are \textit{external}. The recommended practice being that 1\textsuperscript{st} party is conducted by the Training Provider and 2\textsuperscript{nd} party by the TDA\footnote{The scope of a 2\textsuperscript{nd} party audit or inspection will include the whole of the DSAT process and, therefore, activities for which the TDA is responsible. The TDA must ensure that an independent 2\textsuperscript{nd} party audit or inspection of their own activities is carried out.}. Where Service-specific structures do not provide such suitable separation between these two (and in order to ensure that 1\textsuperscript{st} and 2\textsuperscript{nd} party are not conducted by essentially the same organisation, and are therefore both internal), 2\textsuperscript{nd} party must be conducted by the TRA or some other Defence organisation that is appropriate to the assurance need and capable of conducting external assurance. To ensure DSAT compliance, all activities undertaken by the TRA, TDA and Training Provider must be independently audited with appropriate regularity.

**MTS**

5. **CI – 5.15.** The TRA, supported by other stakeholders, must seek to ensure that the Training System continuously improves. This is not a function that takes place at a specific point in the DSAT process but should (as the name suggests) be continuous. CI should not only be applied to the training activity to improve the training (both in terms of cost effectiveness and training delivery) but also to the Training System as a whole. CI is included as an MTS process and should be captured in the TQM. CI can also result from Self-Assessment Reports, recommendations contained within audits, inspections and evaluations, the results of which should be studied in order to identify and then implement improvements. It may be that the appropriate governance body (such as the CEB) authorises any CI recommendations. It may also be acceptable for the Training Provider to implement improvements to training that are obviously beneficial. What can be implemented, by whom, and at what level, should be articulated in the TQM and can include:

a. Making the Training System more resource efficient (resource savings).

b. Making the Training System more cost efficient (financial savings).

c. Making the training easier for the trainer to deliver.
d. Making the training easier for the trainee to assimilate.

e. Reducing bureaucracy without reducing training capability or denuding the DSAT QMS.

f. Increasing the quality and standard of training without increasing costs or resources.

g. Increasing the desire to learn, through imaginative, creative activities and events, without increasing costs or resources.

6. 3* - DPTB – 5.16. Full details are contained in Part 1, Chapter 1, Section 1.1.

7. 3* - JCSSG – 5.16. Full details are contained in Part 1, Chapter 1, Section 1.1.

8. 2* - Training Policy Group – 5.17. Full details are contained in Part 1, Chapter 1, Section 1.1.

9. 2* - DJCTEC – 5.17. Full details are contained in Part 1, Chapter 1, Section 1.1.

10. 1* - TESRRR PAG – 5.18. Full details are contained in Part 1, Chapter 1, Section 1.1.

11. JCTWG – 5.18. Full details are contained in Part 1, Chapter 1, Section 1.1.

12. CEB – 5.19. CEBs are formed as part of the MTS and are specific to the needs of that Training System. The general purpose of a CEB is to provide a mechanism for stakeholders to develop the scale and content of training to match the required Defence outputs within the available resources and in accordance with relevant Defence and SC policies. Full details are contained in Part 1, Chapter 1.1. Generic CEB Agenda and Risk Management suggested formats are at Annex A.

13. Working groups/steering groups (WGs/SGs) – 5.20. There are a number of standing Defence level WGs that are subordinate to the TESRRR PAG and assist with policy, assurance and governance of training across Defence. In the same way, it is likely that the CEB will wish to form WGs and/or SGs to support and assist in its function to govern and manage the Training System.

ASSURANCE ACTIVITIES

Evaluation

14. TNE – 1.8. Whilst the TNE is the final part of the TNA process (Element 1), it is discussed in this part of the JSP as it is an evaluation activity. The purpose of the TNE is to evaluate the effectiveness and efficiency of the TNA process and the training solution that was recommended at the end of Stage 2 (Analysis). First, it should evaluate the TNA process by identifying areas for improvement, learning lessons and seeking to tailor the TNA methodology through the process of CI. Second, it should evaluate the recommendation by reviewing the training solution it proposed. The rationale for this is that it may be some time (years) after the Training Needs Report (completed at the end of Element 1 (TNA Stage 2, 1.7) is published that the TRA will once again be in a position to evaluate the recommended training solution and the TNA process by which it was generated. Implementation and management of the TNE outputs (likely to be recommendations to improve both current and future TNA processes as well as the current Training System) will depend upon the nature of the TNA processes used and the resultant Training System, but the strategy for the TNE should have been included in the Training Needs Report. The key output of the TNE should be an assessment of how well the TNA products and associated management processes contributed to the provision of a training solution that meets the Defence requirement. The TNE should consider for evaluation:
a. Management of Element 1 (TNA Stages 1 and 2).

b. Training effectiveness\textsuperscript{205}: has the chosen training solution met the need? This is fundamentally an ExVal where the approach recommended in categorising any training non-compliance is to:

(1) Evaluate against the TNA recommended training solution and any other recommendations that were fully implemented.

(2) Identify any capability shortfalls as a result of TNA recommended training solution and any other recommendations that were not implemented.

(3) Identify any capability shortfalls that resulted from not being addressed in, or being de-scoped from, the TNA.

c. Training efficiency (such as cost-effectiveness).

d. Availability, reliability and maintainability of any training equipment.

e. Management of the training delivery.

15. The results of the TNE should be presented as a report to the appropriate stakeholders. It may include the contents of Table 1.

| Aims of the Element 1 (TNA Stage 3) TNE report | • Aims and objectives of the training need and/or requirement  
• Training System acquired  
• Summary of the findings from the TNA TNE |
|---|---|
| Review of the processes | • Review of the TNA development techniques and procedures  
• Review of the MTS management techniques and procedures  
• Adherence to Standards and effectiveness of the Standards  
• Performance against budget (such as, cost of SME input, cost of contracted out TNA)  
• Quality of Element 2 (Design) |
| Review of the products | • Functionality  
• Performance  
• Ease of use  
• Availability, reliability and maintainability of the training equipment  
• Upkeep and support aspects  
• Security  
• Documentation  
• Training effectiveness  
• Training efficiency |
| Actual running costs compared with estimates | |
| Assessment of existing requested changes | |
| Conclusion and recommendations | |

Table 1. TNE Report Contents

16. **Evaluation Strategy – 4.1.** Writing an Evaluation Strategy is a key activity that is the responsibility of the TRA. Evaluation is defined as ‘the process of making a judgement as to the worth of training to Defence. It allows Defence to monitor the impact of training and assess what has been achieved, whether it was effective, efficient (i.e. represents VfM) and how it contributed

\textsuperscript{205} Guidance on how to optimise the assessment of training effectiveness can be found in ‘Pragmatic Guidance in support of the Evaluation of Training Effectiveness’ detailed at Part 2, Chapter 5, Section 5.1.
to the achievement of Defence outputs’. Evaluation processes and procedures should ensure that training is:

a. **Efficient and effective.** The input effort to deliver the training should be the minimum required to meet the output standard which should meet Defence’s requirements.

b. **Focused.** The training should be focused on operational/business goals. The trained output should be able to perform their job competently.

c. **Necessary.** A requirement for training must be identified.

d. **Flexible.** The training must be responsive to a change in circumstances.

e. **Appropriate.** The training product should match the employment need.

17. The Evaluation Strategy is likely to include these individual elements, which collectively make up the whole approach to evaluation:

a. **InVal.** Conducted by the Training Provider.

b. **ExVal.** Conducted by the TRA.

18. Kirkpatrick’s evaluation model\(^\text{206}\) is a goal-based evaluation model that divides evaluation into 4 levels of measurement: Reaction, Learning, Behaviour and Results. In a Defence context, it would be useful to ask the following questions:

a. **Level 1 - Reaction.** Did the trainee perceive the training as useful when compared to their expectations? This question is answered through InVal.

b. **Level 2 - Learning.** Were new Skills and Knowledge acquired and Attitudes developed? This question is answered through InVal.

c. **Level 3 - Behaviour.** Has Behaviour changed as a consequence of training and can this be measured when the individual is carrying out the Role? This question is answered through ExVal.

d. **Level 4 - Results.** Was there a measurable impact on business performance and was Value for Money (VfM) achieved? This question can be answered partially through ExVal if agreed training costs are available\(^\text{207}\).

19. In devising an Evaluation Strategy the TRA develops a long-term action plan for achieving successful training. This requires the development of a strategy which aims to assess the total worth of a training activity. An Evaluation Strategy should therefore articulate the training to be evaluated, the types of evaluation to be applied and the roles and responsibilities of the people involved in the process. The Strategy should cover the whole cycle of training, starting when a training need is first identified and continuing until the required Defence outputs are achieved. It is not always necessary, beneficial or possible to evaluate all activities. The TRA should define those areas to be targeted in their Evaluation Strategy and define the link to the requirement. The evaluation\(^\text{208}\) of collective training should also assess whether force generation has been completed to the required Standards and Conditions and recommend what risk to capability should be reported to the TRA. For all types of training, the Evaluation Strategy is based upon the 4 Stages of Evaluation in Defence as outlined in Table 2.

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\(^{207}\) Although these are likely to remain ROM based.

\(^{208}\) See Defence Direction for Collective Training in Part 1, Chapter 3, Section 3.1.
<table>
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<th>Function</th>
<th>Purpose</th>
<th>Benefit</th>
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<tr>
<td>1</td>
<td>InVal. Measure the immediate reaction of the trainee</td>
<td>To measure the perceived effectiveness of the training activity</td>
<td>Improved efficiency and effectiveness of the training activity</td>
</tr>
<tr>
<td>2</td>
<td>InVal. Measure the learning transfer achieved by the training activity</td>
<td>To determine, by applying quantitative or qualitative assessment methods, to what extent trainees increased their Knowledge and Skills and changed their Attitudes (KSA)</td>
<td>Improved efficiency and effectiveness of the training activity and measurement of the Standard achieved by the trainee</td>
</tr>
<tr>
<td>3</td>
<td>ExVal. Measure changes in Behaviour of trainees as a result of the training activity and how well the KSA have prepared trainees for their Role. Measure if the requirement is still valid</td>
<td>To determine the subsequent impact on performance after the training activity and therefore the validity of the training in preparing trainees for their Role. To ensure the requirement is still valid.</td>
<td>Improved efficiency and effectiveness of the Defence through the employment of competent personnel</td>
</tr>
<tr>
<td>4</td>
<td>ExVal. Measure the contribution of training to the achievement of business/operational goals</td>
<td>Overall organisational benefits attributed to training.</td>
<td>Assurance that the effective business/operational focus of training is being maintained and that the investment has had the desired effect and, where possible, VfM is measured.</td>
</tr>
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Table 2. The 4 Stages of Evaluation in Defence

20. When planning evaluation activity the following factors should be considered:
   a. **Importance/impact.** The actual or perceived impact of the training activity on Defence performance.
   b. **Cost.** The cost of the evaluation compared to the realised or potential/perceived benefit of the training activity.
   c. **Outputs.** Utility of the outputs of evaluation (e.g. can the results of the evaluation be used to improve the effectiveness and efficiency of the training?).
   d. **Frequency.** The frequency of the training activity.
   e. **Availability.** The availability of evaluation data.
   f. **Feedback.** Feedback from InVal or ExVal that requires further investigation.

21. The benefits of adopting and implementing an Evaluation Strategy are various. Examples are:
   a. Clear communication and strategic direction for the evaluation of training.
   b. A framework from which the TRA can readily ascertain and/or demonstrate whether training is effectively contributing to the achievement of Defence outputs. More specifically, it assists the TRA, TDA or Training Provider to:
      1. Ascertain whether training is meeting Defence’s needs.
      2. Ascertain whether training is being delivered efficiently and effectively.
      3. Ascertain whether the refresher training strategies were successful.
(4) Quantify the learning transfer achieved by the training activity.

(5) Identify a consistent baseline against which to measure benefits.

22. **Responsibilities.** The production of the Evaluation Strategy is the responsibility of the TRA and should be set out in the TQM (Element 3, 5.13).

23. **Developing an Evaluation Strategy.** An Evaluation Strategy will involve the systematic collection and interpretation of evidence leading, as part of the process, to a judgement of value with a view to action. The term ‘systematic’ implies that the required information is defined at the outset; ‘interpretation of evidence’ and ‘judgement of value’ introduce a critical consideration; and ‘with a view to action’ highlights that evaluations are intended to provide recommendations for the modification and improvement of training. Any Evaluation Strategy, therefore, should:

   a. Be systematic.
   
   b. Ensure provision of a critical analysis of current training.
   
   c. Be linked to risk management to enable review of mitigation strategies.
   
   d. Give a clear indication of improvements to training.

24. Ultimately, the Evaluation Strategy should be appropriate, proportionate, responsive and targeted on the needs of the Defence to help ensure that the costs of the evaluation activities do not outweigh the benefits. It should state:

   a. The evaluation stages to be applied to each training activity.
   
   b. The frequency with which each evaluation stage should be applied.
   
   c. The responsibilities of the various stakeholders at each stage of evaluation.
   
   d. The sources from which information will be obtained.
   
   e. The methods of data recording and analysis.
   
   f. The reports that will be raised.
   
   g. The staffing chain for addressing report recommendations.

25. **InVal – 4.1.1.** InVal is a process used by the Training Provider to determine the efficiency and effectiveness of training delivery. To achieve this, InVal measures:

   a. The immediate reaction of a trainee to a training activity (Evaluation Stage 1; see Table 2).
   
   b. The learning transfer achieved by the training activity (Evaluation Stage 2; see Table 2).

26. **Responsibilities.** The Training Provider is responsible for the conduct of the InVal process which involves personnel from a range of backgrounds including trainers and trainees:

   a. **Trainer.** Trainers have responsibility for day-to-day management of the InVal process including management of the AStrat and feedback mechanisms used during the training activity. Trainers also inform the InVal process through the provision of post-training feedback.
b. **Trainee.** Trainees provide the primary source of feedback, through both test results and feedback, for the InVal process. The information is usually gathered through the completion of a questionnaire or through response to questions posed during a post training discussion or individual interview. In addition, the assessment of trainee performance will provide data which can be used to measure the transfer of learning.

c. **InVal team.** At large training establishments InVal teams may be tasked to conduct the InVal process. InVal teams offer the advantage of impartiality and can provide a ‘big picture’ overview of training effectiveness.

27. **Sources of data.** There are numerous sources of InVal data:

a. **Training documentation.** Training documentation should be checked to ascertain that all Standards from the TOs have been transferred to the LSspecs, that the AStrat includes the testing of all TOs and that any lesson plans (or equivalent) comply with the LSspecs.

b. **Formative** and **summative** tests. Tests may be practical, written or oral in nature and can be used to ascertain that the trainees have assimilated the KSA required to achieve the Standard as specified in the TOs/CTOs. They can also be used to diagnose the strengths and weaknesses of trainees and test potential success, progress and achievement. An unusually high number of failures may indicate faults with the Training System rather than trainee performance.

c. **Trainer performance monitoring.** Trainer performance monitoring can be used to ensure that training is being delivered in accordance with the LSspecs.

d. **Trainee logs.** Trainees can be requested to complete logs on either a daily or weekly basis and should be required to submit written feedback regarding the training they have received.

e. **Observations.** The observation of procedures is especially important in Skills training and relates particularly to the areas of speed, sequencing, manual dexterity and safety. Observations can take either a structured form, requiring the use of coded schedules, or can be unstructured, where the trainer uses their judgement about which events are considered important.

f. **Feedback questionnaires.** Questionnaires can be used to capture trainee opinion on any aspect of training. They can be used to collect both qualitative and quantitative data. Timing needs to be considered to reduce the chance of trainees forgetting information. Questionnaires can also be used to gather information from trainers.

g. **Post training discussions.** A discussion, or focus group, at the end of training enables trainees to air their views, to amplify comments made on questionnaires and for the trainers to gauge the initial reaction to training. It is considered appropriate to use staff who have not been involved with the delivery of the training activity to manage and conduct the discussion process. If ‘external’ staff are used in this way it may not be possible for these staff to answer questions or criticisms and this must therefore be done by the Training Provider. Irrespective of who conducts the discussion, the content of the discussion should be planned as for any interview, producing an aid or schedule to follow. Information from other sources will suggest the areas needing more/less attention or none at all and can include:

   1. The collated responses to the questionnaire.

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209 Formative assessments are conducted during training to identify any weakness in learning or training and to aid the retention of successful learning.

210 Summative assessments are designed to measure achievement at the end of a period of training.
(2) Reports from preceding training.
(3) Past problem areas.
(4) Issues raised by unsolicited or informal feedback.
(5) Analysis of assessment results.

h. Interviews. Interviews can be conducted in order to collect trainees’ reactions to training. They have the advantage of being flexible and allow subjects to be explored in depth. However, interviews can be time consuming and are normally only used to obtain opinions from small numbers of trainees and trainers. Interviews can take both structured and unstructured forms.

i. Unsolicited feedback. Unsolicited feedback may come from trainees, trainers and training support staff through involvement in informal discussions. Data gathered through this means can be used to usefully inform the InVal process and should not be treated in isolation.

j. Other tools. In addition to the tools listed, activities such as audits of the Training System and management reports can provide useful additional data to inform an InVal.

28. Timing. The data required to inform the InVal process can be collected before, during, or at the end of, the training process:

a. Before training starts. When specifying the content of a training activity, it may be necessary to establish what the trainees already know, or what trainees can do, by means of pre-course diagnostic testing. Failure to recognise that trainees can perform certain tasks or possess certain Knowledge can result in training that is inefficient or irrelevant. It is also important to gauge trainee expectations. These tasks can be achieved through completion of a pre-course questionnaire or a pre-course discussion with the information gained used by trainers to enhance the relevance of the training.

b. During training.

(1) Measuring learning transfer. Formative assessments are conducted during training and can be used to measure the learning transfer. Assessing trainee performance during training enables training problems to be identified and dealt with as they arise and allows the Training Provider the opportunity to measure trainee progression towards the achievement of TOs/CTOs.

(2) Trainee reaction. Trainee reaction to the training that has been received can be captured during, as well as after, training. Questionnaires, logbooks and unsolicited feedback are methods through which trainee reactions can be captured.

c. At the end of training.

(1) Measuring learning transfer. The testing and assessment of trainees at the end of training provides a vital indicator of overall training effectiveness. The results of summative assessment can be used to help the Training Provider identify which areas of an activity caused trainees difficulties; they can also be used for assessing the effectiveness of the Training System as a whole. An essential element of the InVal process is the analysis of test results in order to assess the effectiveness of the tests themselves.

(2) Trainee reaction. Feedback mechanisms, such as questionnaire-based critiques, and post training discussions, can provide information against which
trainee reactions to training can be gauged. Trainee assessment results, coupled
with reaction to training, will allow trainers to evaluate trainee performance and will
facilitate the formulation of judgements regarding overall training effectiveness.

29. **Analysis of data.** The InVal process can generate considerable qualitative and
quantitative feedback, some of which may be contradictory. In order to ensure that any changes
made to training are positive, it is essential that a robust analysis of feedback data is implemented.
When analysing data it is important that an analyst is familiar with the concepts of validity, reliability
and triangulation:

a. **Validity.** A measuring instrument is valid if it measures what it is intended to
measure. For example, in training the most valid measuring instrument for a practical Skill
is a practical test. A written test may well test whether the trainee knows what to do in a
practical task but not if they can actually do it.

b. **Reliability.** A measuring instrument is reliable if it gives consistent results. For
example, a test or questionnaire, when administered to two very similar groups, would not
be reliable unless it gave similar results. If it is a reliable measuring instrument it should
also give similar results when it is administered twice to the same group at different times.

c. **Triangulation.** The term triangulation is used to describe the use of 2 or more data
gathering techniques to investigate the same phenomenon. Confidence in the findings is
enhanced when the techniques yield similar results. For example, if the outcomes of a
questionnaire-based survey correspond to the findings of an observational study of the
same phenomena, the more the analyst will be confident of the findings. In addition to the
use of 2 or more data collection tools, triangulation can also be achieved using 2 or more
analysts using the same research instrument.

30. **Factors that influence trainees' reaction to training.** Despite the evaluators' best efforts
to design feedback mechanisms which are both reliable and valid, it is important to realise that
there is a range of external factors that may influence the content of InVal feedback. Every attempt
should be made to take these into consideration when conducting an analysis. For example,
trainees' reactions to training can be influenced by many factors, including:

a. Their relationship with their trainer.

b. Their attitude towards attending the training.

c. The influence of peers.

d. How hard or easy they found the training.

e. The perceived relevance of the training.

f. The quality of the delivery of the training.

31. **Presentation of findings.** Once data has been gathered and analysed, it becomes
evidence to support the conclusions and recommendations of the InVal. It should, therefore, be
summarised and incorporated into a report, although it may be appropriate to hold a meeting of
stakeholders and record the findings in minutes. For a training activity to be deemed internally
valid it must be proven, by triangulation of data, that all training and testing meets the requirements
of the TOs/CTOs as contained in the FTS. For the InVal teams to be able to identify a course as
being internally valid they must be able to positively state that:

a. All Standards have been transferred from the TOs/CTOs in the FTS to the LSspecs.

b. The trainers are training to the LSspecs.
c. Training is being delivered to the correct Standards and Conditions.

d. The TOs/CTOs are being tested to the correct Standards and Conditions as per the ASpec.

e. The trainees have assimilated the Knowledge and Skills to achieve the required Performance.

32. The InVal report is primarily an internal document but it can also be distributed to those responsible for conducting ExVal where appropriate. The InVal report should be used as a management document to identify where, or indeed if, changes to training should take place. It may also form useful evidence for any major changes to the Training System which would be discussed at the appropriate governance body (such as the CEB). InVals also form part of the MTS and contribute to ensuring that the Training System meets the Defence mandated QMS.

33. ExVal – 4.1.2. ExVal uses both qualitative and quantitative data to determine the degree to which training prepares individuals/teams for the specified Role and whether the Role remains valid. ExVal should also measure business improvements. ExVal is applied after trainees have completed a training activity and have had the opportunity to apply what they have learnt in the workplace. ExVal measures:

a. The changes in Behaviour of trainees as a result of the training and how well the KSA have prepared trainees for their Role; and whether the requirement is still valid (Evaluation Stage 3; see Table 2).

b. The contribution of training to the achievement of business/operational goals (Evaluation Stage 4; see Table 2).

34. Aims. The first aim of ExVal (Stage 3) is to determine the success of training in preparing individuals for their Role and whether the requirement is still valid. The following must be considered:

a. Timing. Initially, after training, an individual’s motivation will be increased. Performance, however, frequently suffers as people try to ‘unlearn’ old behaviours and practise new skills. Therefore, the timing of ExVal should be determined by both the length and complexity of the training activity that is being validated. Usually, an ExVal would be implemented between 6-18 months after the completion of training. On the other hand, if too long a period is left between the training event and the ExVal, it will be difficult to ascertain which KSA have been acquired as a result of training and which have been learnt subsequently.

b. Methodology. Some measurement of Behavioural change may have already been made during the assessment of trainee performance during training. However, in order to ascertain the full impact of training on individual performance in the workplace, further analysis must be undertaken. The process through which data is collected and analysed in order to inform ExVal should be planned. This is typically via questionnaire-based feedback mechanisms211. Questionnaires will normally be distributed to both ex-trainees and their respective line managers at least 6 months after the completion of training. The questionnaire should examine the degree to which the TOs/CTOs relating to a particular training activity remain relevant to the employment area they were designed to support. The questionnaire should also serve as a mechanism through which data can be gathered on wider aspects of the training process, and must be responsive to the needs of all stakeholders. The questionnaire should also give Training Providers a common method of determining how applicable and effective the training was in affecting the trainees’ Role.

211 Although questionnaires will be the main method of gathering data, the user should not rule out the other tools available, such as minutes of meetings, visit reports and data relating to Role performance that is obtained through observation of the trained individual in the working environment and through interview.
Performance. Data should also be gathered from trainers. Activities such as audits of the training process, trainer monitoring, management reports and other data gathered through the InVal process can all be used to inform ExVal.

35. The aim of Stage 4 Evaluation is to assess overall benefits to the organisation of a particular training activity and whether it offered VfM. This Stage of evaluation is challenging in an organisation the size of the MOD. Defence Performance and Risk reporting mechanisms mean it is possible to measure whether training has directly contributed to Defence outputs by measuring performance against the Defence Board Defence Tasks which are, essentially, Defence’s organisational goals. To evaluate business benefits to the organisation, training should be linked to the Defence Tasks and their subordinate SC objectives. Those conducting Stage 4 Evaluation should bear in mind that there are many other factors external to training which may impact business performance (such as redundancy programmes, leadership in the workplace etc). JSP 507 provides guidance on the evaluation of projects including the assessment of whether VfM was achieved.

36. Responsibilities. It is the responsibility of TRA to conduct ExVal. The TRA may employ an ExVal team for the planning, coordination and implementation of the ExVal and for the dissemination of the results. In doing so the team will need to draw on the experiences of many of those involved in the training process who should be encouraged to take individual responsibility for the conduct of ExVal. Wherever such a responsibility is accepted then CI of the training is more likely. The main contributors include:

   a. **Ex-trainees.** Provide information, by questionnaire and/or interview, that informs the ExVal process of their opinions as to how well the training prepared them for their in-Role tasks.

   b. **Line managers.** Ranging from the ex-trainees’ immediate supervisor to their CO (or equivalent), such personnel usually prove to be more objective sources of information as to how the training has prepared the ex-trainee for their Role.

   c. **Subject Matter Experts (SMEs).** Recognised experts in the subject matter for which the training was designed should be identified and consulted. An SME working within a Training Provider should not, however, be disqualified from making a contribution purely on the grounds of their current employment.

37. The methods of gathering and analysing data used in ExVal will vary according to the object, scope and Stage of the ExVal itself. The final ExVal report should be used to identify where, or indeed if, changes to training should take place. It may also form useful evidence for any major changes to the Training System which would be discussed at the appropriate governance body (such as the CEB). ExVals also form part of the MTS and contribute to ensuring that the Training System meets the Defence mandated QMS.

**Audit and inspection**

38. The term Assurance is used to capture all assurance activities (including evaluation, covered in 4.1, 4.1.1 and 4.1.2). To clarify the terms, audit and inspection are:

   a. **Audit.** An audit is a systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which that evidence meets specified assessment criteria. A Defence training audit is conducted against the requirements of the DSAT QMS. An audit can be carried out by 1st, 2nd or 3rd party bodies. Further audit Guidance is at Annex C.

   b. **Inspection.** An inspection is a formal examination or review of training performance and outputs to determine adherence with regulations, assessment of
effectiveness and/or to ensure fitness for purpose. An inspection can be carried out by 1st, 2nd or 3rd party bodies. Further inspection Guidance is at Annex D.

c. **The relationship between audit, inspection and evaluation.** The terms audit, inspection and evaluation are commonly confused with each other. Whilst the products of audit and inspection can be used to inform evaluation, it is important to appreciate that, in Defence terms, they are not the same thing. Table 3 outlines the key differences.

<table>
<thead>
<tr>
<th>Audit</th>
<th>Inspection</th>
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<tbody>
<tr>
<td>Objective</td>
<td>Subjective</td>
</tr>
<tr>
<td>Process/procedure related</td>
<td>Performance/output related</td>
</tr>
<tr>
<td>Timing Predictable</td>
<td>Timing can be announced in advance or unannounced</td>
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<tr>
<td>Conformance/Non-conformance</td>
<td>Pass/Fail/Graded</td>
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<tr>
<td>Checked against set criteria</td>
<td>More evaluative</td>
</tr>
<tr>
<td>Scope restricted to agreed areas</td>
<td>Scope areas against an agreed framework (such as Common Inspection Framework).</td>
</tr>
<tr>
<td>Done against a published standard (i.e. to a standard e.g. DSAT QMS or the key questions derived from the CIF)</td>
<td>Non-restricted</td>
</tr>
<tr>
<td>Auditors do not necessarily need to be SME in the subjects being trained, however auditors require experience in the Training System</td>
<td>Inspectors generally need to be SMEs in the subjects being trained</td>
</tr>
<tr>
<td>Auditors require training in the QMS and in 1st/2nd/3rd party audit methodology</td>
<td>Experience in the subject matter of the training area is required. Some specific inspection methodologies such as CIF require training to be used effectively.</td>
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Table 3. Key Differences Between Audit and Inspection

39. Within Defence, significant emphasis is placed on the added value or 'performance improvement' that can be obtained from conducting an audit or inspection. Without it, the value would be reduced. It should also be remembered that an audit or inspection is a sampling or 'snap shot' of a part of the DSAT process at a specific time. An audit or inspection should never aim or claim that a system is 100% compliant.

40. **Collective training assurance.** In addition to all assurance activities required in Element 4, for Joint Operations, force generation through collective training should also include distinct training assurance phases, comprising an evaluation\(^\text{212}\) (4.1) that FEs or Components have been successfully generated, validation (4.1.1 and 4.1.2) of the force generation process, and certification (5.12) that the TRA accepts any risks\(^\text{213}\). In particular, collective training should be assured prior to the participation of FEs or Components in higher tier activity. This assurance should be undertaken by the appropriate TRA and TDA in force generation but should be considered a continuous process as part of force sustainment, particularly the assurance that generated forces remain ready for operations if not immediately deployed or if their operational tasking changes. Therefore, the periodicity of specific assurance activity is to be determined by the TRA in consultation with the TDA via a risk management process\(^\text{214}\) and as endorsed by the collective training CEB. It should be noted that the term ‘assurance’ in the collective training context also means operational assurance of the force, as well as assurance of the collective Training System\(^\text{215}\).

41. **Responsibilities.** The Defence Training and Education Assurance Working Group\(^\text{216}\) (DTEAWG) is responsible for the co-ordination of Defence audit activity pan-Defence. Training

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\(^\text{212}\) This is operational assurance; safety-focused operating assurance is also necessary.

\(^\text{213}\) Note that training assurance at Tiers 3 and 4 may imply the involvement of performance standards provided by or agreed with NATO, the EU, Coalition partners or OGDs as appropriate.

\(^\text{214}\) See Annex B for Guidance on assessing risk via critical error analysis.

\(^\text{215}\) More detail is available in the Defence Direction for Collective Training, in Part 1, Chapter 3, Section 3.1.

\(^\text{216}\) Managed by TESRRR, CDP, MOD.
Providers are responsible for conducting their own internal 1st party audits and inspections. A nominated\textsuperscript{217} Lead Auditor (LA) is responsible for the management and conduct of the 2nd party training audits of Defence Training Establishments, schools and other Training Providers. The LA should be nominated at least 6 months in advance of the audit.

42. **Defence Audit and Inspection Programme.** The Defence Audit and Inspection Programme is held on the DAMT (Defence Assurance Management –Training) database. The DAMT is responsibility of the DTEAWG. All parties producing audit and inspection programmes submit their programmes to DTEAWG Chair (SO1 H2A DII: People-TESRRR-H2A SO1) in order to minimise and de-conflict the frequency of audits and inspections on Training Providers. Relevant external 3rd party inspection agencies (Ofsted) are provided with current programmes in order to better coordinate 3rd party inspections and ease the inspection load on training.

43. **Assurance of contracted out DSAT activities.** Any DSAT outputs, processes and products delivered by an external contractor should be subject to the same assurance activity as required for those delivered internally. The Defence Authority responsible for contracting out training design or Training System should ensure such arrangements are provided for within the contract and, the Defence Authority subsequently responsible for accepting the products being delivered by a contractor, is to ensure that they are part of relevant assurance activity, noting that many contracted Training Providers will be subject to their own systems of assurance (such as the Quality Assurance Agency for Universities) that may fulfil part of this remit.

**Assurance activities (audit and inspection)**

44. **1st party audit and inspection – 4.2.** 1st party audit and inspection is assurance activity conducted for internal purposes by all parties for the DSAT activities they undertake themselves. This will form the basis of an organisation’s self-declaration of conformity and is a key part of CI\textsuperscript{218}. 1st party audits are conducted to assure their Commanding Officer/Head of Training Establishment that the training and related activities are being undertaken in accordance with the DSAT QMS and that improvements identified by this process are implemented. The immediate aim of a 1st party training audit within the DSAT context is to allow the Training Provider to confirm that it complies with its own documented MTS which in turn should comply with the DSAT QMS. However, there may be several more strategic aims and reasons why audits are carried out. Figure 3 provides a flow diagram to explain the 1st party audit and inspection process and Annex E contains the suggested formats. In general, 1st party audits/inspections are conducted when:

a. It is a stipulated requirement (e.g. DSAT QMS, external funding, regulatory and awarding bodies, Investors in People, International Standards Organisation).

b. It contributes to the overall assurance of Defence training and is utilised by the Chain of Command to develop a culture of CI and will ensure systematic improvement of the Training Provider and/or Training System.

c. To prepare for a 2nd party audit or an external inspection.

\textsuperscript{217} Nominated by the authority (usually the TDA) conducting the audit and inspection.

\textsuperscript{218} Examples of such activity are 1st party audits against the DSAT QMS and self-assessment activities such as peer review.
45. **2nd party audit and inspection – 4.3.** These are conducted against the DSAT QMS and elements of the Common Inspection Framework (CIF). 2nd party assurance should capture the whole Training System (i.e. the whole of the DSAT process, including the MTS). The report of a 2nd party audit is to be directed to the chair of the CEB or its equivalent, in order to determine who is responsible for taking any actions arising and for oversight that such actions have been completed satisfactorily. 2nd party audits or inspections provide part of the higher level assurance activities to stakeholders that Training Providers and others involved in the DSAT process are complying with the DSAT QMS effectively. 2nd party audits or inspections are conducted by a body that is external to the 1st party but still within Defence. A suggested format for the 2nd party audit report is at Annex E. In general, 2nd party audits/inspections of a Training Provider:

a. Provide evidence to stakeholders of a Training Provider’s effectiveness. The published report is distributed via the TDA (through the CEB chair) and other stakeholders. It provides a clear indication as to the health of the training processes and outputs of the Training Provider, how management is striving to continuously improve the training activities, and the measures being undertaken to address areas for development.
b. Provide comment on the effectiveness of the CI culture, specifically when reviewing the internal MTS.

c. Utilise elements of the CIF to assess the quality of the learning provided in a well-managed and safe environment.

d. Provide evidence to the Training Provider relating to their assurance regime.

46. **2nd party audit process.** A 2nd party audit of a Training Provider can be prioritised using a risk-based approach but the aim should be to carry out a 2nd party audit every 2 years\(^\text{219}\). A schematic of the timeline is at Annex F. The audit is broken down into 4 stages:

a. **Stage 1: Preparation.** In the weeks leading up to an audit, extensive formal and informal meetings and communications should be established in order to ease the concerns of the Training Provider, introduce the audit team and the processes to be undertaken, and promote transparency of the process and the likely event schedule during the audit. Production of the programme for the audit should be provided as far in advance as possible. An Action Log for the audit should be maintained in order that all involved can gain an insight into any previous issues and what actions have already occurred.

b. **Stage 2: Conduct of the audit.** The audit team should convene an initial meeting and/or provide feedback to the Training Provider throughout the audit. To ensure that mandated activities are audited, the audit team should create their own compliance questions using, for both individual and collective training, Part 1, Chapter 1, Section 1.1 and, for individual training, Part 1, Chapter 2, Section 2.1. Additionally, the CIF question matrix (held by Ofsted) can be used. Any annotated checklist or auditor’s notes should be maintained as a Quality Record. On completion of the audit, the team should present its preliminary findings to the Training Provider, outlining the timescales for the publication of the audit report and the potential assistance that the audit team can render to the Training Provider when developing its action plans to address any non-conformities or observations.

c. **Stage 3: The audit report.** The audit team should compile and distribute the report within 3 weeks of the visit. The report should include the summary list of non-conformities, observations as well as examples of good practice. Where relevant, it should also include a brief evaluation against each of the CIF questions. Once agreed by the team and signed off by the Lead Auditor, the report is sent to the Training Provider to ensure that the report is factually accurate. Once the Training Provider confirms the facts of the report, the final report is dispatched to the CEB Chair, or equivalent, and is copied to the stakeholders (including the DTEAWG).

d. **Stage 4: 2nd party audit outputs.** A 2nd party audit should include key findings and principal recommendations based on the management, analysis, design, delivery and quality control of training. In order to provide this, the following outputs are required:

1. A detailed list of non-conformities against the DSAT QMS, observations, areas of good practice and recommendations as appropriate. These are included as annexes within the audit report.

2. The Training Provider should issue an action plan outlining how it intends to address non-conformities or negative observations.

3. A formal follow-up visit is be arranged within 3 to 5 months to provide further feedback on the action plan drafted by the Training Provider to meet any non-conformities or observations (this action plan should be integral to and reviewed as

\(^{219}\) 4 years is the maximum interval permissible between 2nd party audits.
part of the Training Provider’s MTS). A follow-up report will be generated in the same format as the initial report.

(4) The audit team should continue to support the Training Provider after the follow up visits are concluded (and the non-conformities and observations are addressed) in order to help ensure that the assurance process at the heart of the Training Provider’s CI philosophy is regularly informed by external Defence training assurance specialists.

47. This information may be required from the Training Provider prior to commencing an audit or inspection:

a. Map/plan of the entire Training Provider estate (noting that it could be more than 1 location).

b. Organisational diagram of the Training Provider with names and extension numbers of key staff that are likely to be involved in the audit and inspection.

c. Size of the Training Provider (such as, staff numbers, ToRs and real estate).

d. Number of training activities being delivered and trainees on each one.

e. TQM and training targets.


g. Last 2 years of 1st party (internal) audits/inspections and the actions carried out since.

h. Last 2nd party audit and inspection and the actions carried out since.

i. Last Ofsted reports (if applicable).

j. Access to current unit training orders (or equivalent).

k. Minutes of most recent CEB (or equivalent).

l. The SOTT or training directives.

m. SCD.

n. Special requirements (security requirements, shadowing, classifications and Health and Safety issues).

48. The broad intent of 1st and 2nd party assurance activities for training delivery is to ensure that 1st party audit and inspection are internal to the delivery unit and 2nd party audit and inspection are external. The recommended practice for being that 1st party is conducted by the Training Provider and 2nd party by the TDA220. Where Service-specific structures do not provide suitable separation between these two (and in order to ensure that 1st and 2nd party are not conducted by essentially the same organisation, and are therefore both internal), 2nd party must be conducted by the TRA or some other Defence organisation that is appropriate to the assurance need and capable of conducting external assurance. To ensure DSAT compliance, all activities undertaken by the TRA, TDA and Training Provider must be independently audited with appropriate regularity.

220 The scope of a 2nd party audit or inspection will include the whole of the DSAT process and, therefore, activities for which the TDA is responsible. The TDA must ensure that an independent 2nd party audit or inspection of their own activities is carried out.
49. **3rd party audit and inspection – 4.4.** These are conducted by organisations independent of the Chain of Command (such as, by Ofsted against the CIF). 3rd party assurance activities are delivered by organisations *external* to Defence and provide an independent view of Defence’s Training Systems. These organisations can include the Skills Funding Agency, ISO, BSI, but, in practice, it is only Ofsted who regularly conduct 3rd party assurance in the form of Welfare and Duty of Care inspections. The decision regarding which Training Providers to inspect is entirely independent of Defence and is within Ofsted’s gift. Training Providers will normally receive 24 hours’ notice of an Ofsted inspection. The Governance arrangements are laid down in the Memorandum of Understanding (MoU) between the MoD and Ofsted. Ofsted conduct their inspections in accordance with the Common Inspection Framework (CIF). Individual reports/feedback are provided to the Training Provider and a final report is published, on the Ofsted website, at the end of the reporting period (usually Sep – Mar). All Training Providers are briefed by Ofsted at a Defence-facilitated Ofsted awareness day, prior to the start of the reporting period. In addition, Ofsted brief all Commanding Officers during the DCTS-run Commanding Officers of Training Environments (COTE) Course.

Annexes:

A. Generic CEB Agenda and Risk Management Suggest Formats.
B. Guidance for Data Gathering and Analysis.
C. Audit Guidance.
D. Inspection Guidance.
E. 1st and 2nd Party Audit Document Suggested Formats.
F. 2nd Party Audit Report Timeline Schematic.
# GENERIC CEB AGENDA AND RISK MANAGEMENT SUGGESTED FORMATS

As a general guide the WG will produce all the information at a lower level and hold detailed discussions whilst the CEB will serve to address identified risks, assumptions and issues, agree proposed COA and seek further Direction and Guidance as required.

<table>
<thead>
<tr>
<th>Ser</th>
<th>Item</th>
<th>Possible Outcomes</th>
<th>Lead</th>
<th>Decision Support Information Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Chair’s opening remarks</td>
<td>Introduce attendees, set the context for the CEB and provide any H&amp;S or domestic instructions</td>
<td>Chair</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>RoDs of last meeting</td>
<td>Confirm accurate record/update on progress since last meeting</td>
<td>Chair</td>
<td>RoDs</td>
</tr>
<tr>
<td>3</td>
<td>Action Grid Review</td>
<td>Confirm the action grid is up-to-date and that allocated actions have been progressed</td>
<td>Chair</td>
<td>Action grid</td>
</tr>
</tbody>
</table>
| 4   | CEB Objective 1: Training Delivery – Report on TY1 and current Training Issues to include trainer numbers, trainer issues (training, volunteers), Methods & Media selection, statistics (Throughput, failure rate, FTPR), infrastructure issues, resource constraints, end of training reports, feedback etc | Summarise TY Examining whether training is cost-effective and represents VIM Question whether alternative Methods & Media should be considered Confirm sufficient training resources to deliver SOTT Evaluate statistical trends Endorsement of the FTS and ASTrat | TDA | • TY1 report  
• TY1 SOTT (predicted v actual)  
• Establishment data  
• DTC returns  
• Training risks  
• Statistics |
| 5   | CEB Objective 2: Near-Term Training requirement - (Content) Future requirement and prioritisation | Identify current training requirements changes Identify future developmental requirements Agree and endorse changes to Role PS and FTS Acceptance of TrAD/Role PS from appropriate TRA Development of appropriate Joint or Defence training activities | TRA | For all training activities where updates are required:  
• Role PS  
• FTS (TPS + WTS + RTGS)  
• TrAD  
• Developing requirements  
• WG Reports |
<table>
<thead>
<tr>
<th>Ser</th>
<th>Item</th>
<th>Possible Outcomes</th>
<th>Lead</th>
<th>Decision Support Information Reference</th>
</tr>
</thead>
</table>
| 6   | CEB Objective 3: **Near-Term Training requirement (Volume)** – Endorsement of the SOTR for TY 2 (commencing the following Apr) | Consider SOTT against SOTR  
Identify risk and agree COA  
Amend TrAD as necessary  
Endorsement of the SOTR for TY 2  
Clarification on the implications of any future changes to TY 2.  
De-conflicting of any resource requirements that arise from late notice (less than 12 months from commencement of training)  
SOTR imbalance by trading SC training priorities against available funding.  
Report uptake and performance against the SOTT  
Retention of an audit trail to show why differences between SOTR and SOTT have occurred | TRA | • SOTR - TY 2  
• SOTT - TY 2  
• TrAD |
| 7   | CEB Objective 4: **Trainee Flow and Future Requirements (Volume)** – discussion of trainee pipeline flow and initial recruitment to inform predictions for TY 3 and 4 | Consider SOTR against SOTT  
Identify risk and agree COA  
Amend TrAD as necessary  
Pursue the optimisation of training, including the efficiency of training pipelines  
Ensure that appropriate co-ordination is in place between multiple CEBs, where they exist  
Consideration (in broad terms) of the training requirements currently predicted for TY 3 and 4 and the anticipated ability to deliver that requirement with the resources available  
Report uptake and performance against the SOTT  
Retention of an audit trail to show why differences between SOTR and SOTT have occurred | TRA | • SOTR – TY 3 and 4  
• WTS  
• RTGS |
| 8   | CEB Objective 5: **DSAT QMS Compliance & Assurance activity** | Examine what assurance activity has taken place  
(InVal, ExVal)  
Confirm DSAT compliant – when did the last documentation review take place?  
Identify risk/agree COA/commit to seeking further Direction and Guidance  
Task activity to address concerns (including bespoke WGs).  
Approve AStrat which should include Remedial Training measures law JSP 822, Part 1, Chapter 2, Section 2.6. | TDA | • 1st party audits  
• InVal reports  
• ExVal reports  
• 2nd party audits  
• Inspections  
• Ofsted inspections |
| 9   | CEB Objective 6: **Injuries in Training** | Where relevant, identity type and scale of injuries and if required agree appropriate COA  
Examine injury trends | Chair | ○ Training Injuries data capture to be provided by SMO |
### Impact to Training

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>7 Extreme (will definitely occur frequently)</th>
<th>6 Severe (will definitely occur regularly)</th>
<th>5 High (will definitely occur on occasion)</th>
<th>4 Mod (will probably occur regularly)</th>
<th>3 Low (will probably occur on occasion)</th>
<th>2 V Low (likely to occur on occasion)</th>
<th>1 Minimal (Unlikely to happen)</th>
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<td>1 Negligible</td>
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Frequently = Daily  
Regularly = Weekly  
On Occasion = Monthly

### ID of Risk (Step 1)  
Analysis of Risk (Step 2)  
Plan/Manage Risk (Step 3-4)  
Remarks

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<th>Analysis of Risk (Step 2)</th>
<th>Plan/Manage Risk (Step 3-4)</th>
<th>Remarks</th>
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GUIDANCE FOR DATA GATHERING AND ANALYSIS

There are a variety of data gathering tools and analysis techniques that are available to assist with Assurance, particularly InVal and ExVal. This Guidance aims to present the tools and techniques available along, the advantages and disadvantages each brings and some considerations for the analysis of data.

Characteristics of data gathering tools

1. The characteristics that all measuring instruments should possess are:
   a. **Validity**\(^{221}\). A measuring instrument is valid; that is, relevant and appropriate, if it measures what it is intended to measure. In training, the most valid measuring instrument for a practical skill is a practical test. A written test may well test whether the trainee knows what to do in a practical task, but will not test whether the trainee can actually do it. The written test is not valid because it is measuring the wrong thing. If a measuring instrument is not valid it should not be used however effective it otherwise characteristics.

   b. **Reliability**. A measuring instrument is reliable if it gives consistent results when the same entities are measured under the same conditions. If it is a reliable measuring instrument it should also give similar results when it is administered twice to the same group at different times (i.e. test/re-test reliability). If a test, questionnaire, report form or interview is not reliable it should not be used.

   c. **Standardised Conditions**. The conditions under which a measuring instrument is used should be standardised. If the administration of the same test on two separate occasions is likely to bias responses, due to a learning effect, then it is possible to develop an alternate form of the test. Alternate form reliability, however, would need to be demonstrated.

   d. **Discrimination**. A measuring instrument should be sensitive enough to record differences between individuals in what is being measured. Similarly, the inability to discriminate between satisfactory and unsatisfactory training is of no use.

   e. **Practicability**. Any assessment of training must be administratively practicable. A theoretically superb assessment system is of no use if practical limitations, such as time, cost or manpower considerations prevent it from being used.

Factors influencing the choice of data gathering tools

2. The choice of data gathering tools is crucial in determining the effectiveness of the study. Influencing factors can be:

   a. The reason(s) for directing data gathering to be conducted.

   b. The resources allocated to the task (such as, timescale, manpower, funding).

   c. Level of expertise of the analysts.

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\(^{221}\) For further information on Validity, see Part 2, Chapter 5, Section 5.1.
d. The size of the Target Population:

   (1) Numbers of Role holders\textsuperscript{222} and supervisors/managers.

   (2) Rank/experience.

   (3) Trades/skill levels.

   (4) Availability of target population/geographical influences. For example, questionnaires may be preferable to face to face interviews for a widely dispersed population in distant locations.

3. The data gathering plan should be produced at an early stage, highlighting the tools, sources of data and resources that will be used. The relative advantages and disadvantages of the main data gathering process are discussed later in this Annex.

Ethical considerations when gathering data

4. There are several ethical considerations that need to be adhered to throughout the data collection process\textsuperscript{223}. The respondents’ right to privacy and the right to refuse to answer certain questions, or to be interviewed at all, should always be respected, and no undue pressure should be brought to bear. The reason for this caution whilst undertaking data collection is not only for the interviewee’s benefit but also for the interviewer’s. If an interviewee believes that answering questions honestly will harm them then they are more likely to give bland, misleading and uninformative answers. Any evaluation based on such data is invalid. When conducting interviews a manner conducive to following sound ethical considerations should be followed. Examples are:

   a. Honesty. The interviewer should portray a non-threatening manner and remain truthful and faithful to the purpose of the interview. This ensures that the interviewee also gives honest answers to any questions.

   b. Impartiality. Regardless of the analyst’s own particular viewpoint, an interview or questionnaire analysis should remain objective, valid, reliable and accurate. No attempt should be made to persuade a respondent to agree with the analyst’s perspective. For example, an interviewer must be careful not to ask leading questions.

   c. Relevance. The reason for the data collection and the target population is to be made clear. The data collection tool must be objective and economic with the respondent’s time. For example, an interview should be concise and focused. Rushed interviews with irrelevant questions reduce the credibility of the interviewer and the reliability of the data gathered.

   d. Confidentiality. If the data collected is to remain confidential, and the analyst has stated this, then confidentiality must be observed. If the respondent wishes to remain anonymous and if the analyst agrees then this agreement must also be observed. It may also be important that it is explained who will see the data collected and the analysis of the collected data. Such openness on the part of the analyst leads to respondents being equally open.

   e. Anonymity. Consideration needs to be given when anonymity is to be used. If follow up interviews are to be undertaken as a result of the data gathered from questionnaires then it is important to have those details of individuals filling in the questionnaire. Consequently, the reason for the lack of anonymity should be stated as part of the instruction to the questionnaire. Additionally, individuals are more likely to complete

\textsuperscript{222} For the purpose of this Guidance the terms ‘role holder’ and ‘ex-trainee’ are synonymous.

\textsuperscript{223} JSP 336 provides further guidance.
questionnaires if they know what is going to happen with the data collected. If there is no requirement to know who has completed a questionnaire or interview then anonymity is recommended.

f. **Control of data.** The Data Protection Act (DPA) 1998 gives rights to the individuals about whom information is held and processed. They may request information about themselves, challenge it if appropriate and, in certain circumstances, claim compensation. The Act also placed obligation on those who record and use personal data (data users). They must be open about that use (through the Data Protection Commissioner) and follow sound and proper practices (The Data Protection Principles). Data can include material produced manually as well as that which is processed using automated means. Further information about the DPA is available in Joint Service Publication (JSP) 400 - Disclosure of Information. JSP 400 - Disclosure of Information supersedes JSP 406 - Guidance to the Data Protection Act 1984.

**Data gathering methods**

5. **Quantitative data gathering.** Quantitative data are gathered using closed questions (yes/no or scored answers). A relatively simple easy way of processing quantitative data is through some form of frequency statement which requires the use of standardised measures so that the varying perspectives and experiences of respondents can be identified by a number of predetermined response categories. A numerical value is then assigned to each category.

6. **Qualitative data gathering.** Qualitative data can be defined as data gathered on individuals’, feelings, opinions, beliefs etc using open ended questioning. Qualitative methods allow the study of selective issues in depth and detail. Qualitative data consist of detailed textual information rather than numerical information generated by quantitative techniques. Qualitative data can be generated from 3 main types of data collections:

   a. **Questionnaires/written documents.** Document analysis in qualitative terms includes excerpts, quotations or passages from organisational records and open-ended written responses to questionnaires and surveys.

   b. **Direct observation.** The data from observations consist of detailed descriptions of operators’ activities, behaviours, actions that are part of observable human experience.

   c. **Interviews.** The data from interviews consist of quotations from respondents about their experiences, opinions, feelings and knowledge. These aspects are elicited using open-ended questioning and can be used to confirm/clarify data obtained as referenced above.

**Piloting**

7. The aims of piloting are to allow:

   a. The systematic gathering of information to confirm validity of data gathering tools.

   b. The identification of technical inaccuracies and faults.

8. **Testing the questions.** When piloting (testing) the questions these points should be borne in mind:

   a. The question should involve only one idea.

   b. The question should be worded as simply as possible in light of the ability of the target group.
c. The question should be as brief as possible.

d. The question should be as direct as possible.

e. The question should allow the respondent to admit lack of knowledge without loss of face.

f. The question should be positively phrased - not looking for negative response.

g. The question should not influence the response.

9. **Piloting process.** For questionnaires, when the initial construction is complete, in addition to testing the questions, the questionnaire must be piloted as follows:

a. The questionnaire is completed by an individual under the close supervision and with the assistance of the designer. Any difficulties found or comments made by the person completing it should be noted. The individual chosen should be either a member of the group for whom the questionnaire is intended, or as much like the members of this group as possible. Ideally, this procedure should be carried out a number of times with different people.

b. The questionnaire is amended to solve problems and ambiguities found in the first stage.

c. The amended questionnaire is then completed under the same conditions that will prevail when it is eventually administered. Again, members of the group used should be as near as possible to those for whom the questionnaire is intended. The respondents should be asked for comments or criticisms after they have completed the questionnaire.

d. The questionnaire is amended to eliminate any difficulties or ambiguities remaining. Analysis of the answers given should assist in indicating any inconsistencies in answers that may be the fault of the questionnaire.

10. **Outcomes.** Only after effective piloting can the questionnaire be considered ready for use. Even then the questionnaire will not be perfect. Answers given and comments made by those completing the questionnaire will indicate, in some cases, that further amendments are required:

a. If the structure of the design does not need any alteration following the pilot, then information obtained from the pilot can be used as part of the population data. However, where the population is to be analysed by sampling in order to prevent any misrepresentation or confusion, the data-gathering pilot should be conducted on a separate sample of the population.

b. Once the objective(s) of the study has/have clearly been stated, including sample/population size and the quality and type of information to be received (qualitative and quantitative), the process of establishing the data gathering techniques can begin.

11. **Sources of information.** When conducting a pilot careful consideration should be given as to who would be the best source of information for particular areas:

   a. Subject Matter Experts (SME) and trainers can provide useful feedback in respect of the technical content included in the interview/questionnaire and the language used.

   b. Representative operators can be used to review the responses already obtained from SME input. In addition they can also provide information on:

      (1) Operator reaction.
(2) Ease of completion.
(3) Sequence of activities.
(4) Time taken to complete questionnaire.
(5) Depth of response required.

12. **Piloting pre-requisites.** There are certain pre-requisites for piloting when carrying out a study:

   a. High cost.
   b. Large target population.
   c. Complex subject matter.
   d. Tasks of a critical nature.

**Choice of data gathering techniques**

13. Once the objective(s) of the research have been clearly stated, including the sample/population size and the quality and type of information to be received (either qualitative or quantitative data), then the process of establishing the technique to be employed to gather the data can begin. The choice of data gathering technique(s) will depend on the sample size, resource implications and many other factors. In all cases the data gathering method should be fit for purpose and developed by suitably qualified and experienced personnel.

14. **Questionnaire.** A questionnaire can be used to cover a large number of people at relatively low cost and the data it provides is generally easy to analyse. However, questionnaires are difficult to design, are resource intensive and require piloting and pre-testing to ensure that they are collecting the right types of information. Questionnaires do not always allow great flexibility, may not be completed by the recipient, and response rates are not always as high as the team doing the analysis would wish.

15. **Interview.** Data can be gathered from Role holders and their employers by interview. While the interview allows the personal touch to be brought to the analysis process, and its inherent flexibility, care needs to be taken to avoid bias. The process is time-consuming and data analysis can be difficult.

16. **Observation.** Observation of personnel carrying out their tasks can also provide useful information but it is a very labour-intensive means of acquiring data. It is usually limited by the range of tasks being undertaken and can be misleading if the observer is unfamiliar with the task.

17. **Document research.** When conducting a study it may be necessary to consult documents such as interim reports from on-going related studies, exercise reports, operational reports, current training documentation, doctrine and policy documents and manufacturer’s manuals.

18. **A conference of experts.** This is sometimes known as a Technical Conference or Focus Group and is held when it is necessary to discuss the nature of the Role with others who are experts in that particular field. In some cases this may be the only data gathering method available or needed. It produces quick results, but the problem with experts is that they tend to overlook routine aspects of a Role that could present problems to the non-expert. This method can also be used to analyse findings (e.g. from questionnaires).

19. **Critical incident technique.** The critical incident technique is the procedure for collecting observed incidents that have proven very important or critical to performance. It has been used
extensively in civilian flight safety investigations and can be used to provide data on the relevance of training to performance of the Role or task. However, this technique can be very lengthy and labour intensive when used to identify the whole spectrum of tasks that make up a particular Role.

**Questionnaires**

20. Questionnaires can gather qualitative and quantitative information and are very useful in both InVal and ExVal. Questionnaires sent to ex-trainees sometime after their course can provide useful information about the relevance of training. Questionnaires should be sent out on a routine basis to ex-trainees and their supervisors at an appropriate period on completion of training (normally 6-9 months). This type of questionnaire looks all the tasks conducted, addressing:

   a. Do the operators carry out the tasks for which they were trained?
   b. How well were the operators trained for these tasks?
   c. Do the operators carry out any other tasks for which they were not trained?

21. **Constructing a questionnaire.** When producing a questionnaire these points should be borne in mind:

   a. **Introduction/rapport.** The introduction, or covering letter, to the questionnaire is very important, because unless the full co-operation of the respondent is obtained the results are useless. To ensure willing co-operation, the questionnaire should create and maintain rapport with the respondent. The purpose of the questionnaire should be explained whether in a written introduction or by the person administering the questionnaire. It should be made clear that respondents’ opinions are valued and could make a difference to the results of the project.

   b. **Presentation.** The questionnaire should look well prepared and be easy to complete.

   c. **Instructions.** Instructions on how to complete the questions should be simple, clear and concise.

   d. **Language.** The language used in questions asking for criticisms should be impersonal and permit the expression of frank replies.

   e. **Questions.** Questions should be:

      (1) As short as comprehensive coverage allows and must be relevant to the information required.

      (2) In a logical sequence. Questions relating to a specific subject should be placed together.

      (3) Precise and specific. Vague questions will lead to vague responses due to different interpretation. If a group of questions does not apply to everyone it must be made apparent who is to answer them. Filtering of questions is recommended.

      (4) Capable of being answered. Respondents must be capable of answering the questions and have adequate knowledge/experience to provide meaningful responses.

   f. **Confidentiality.** Respondents must be reassured that the questionnaire will be treated in strict confidence and that completed questionnaires will only be seen by the analysis team and destroyed once analysis is completed.
g. **Clarification.** Provide a contact name and telephone number for any queries. Include a date for completion and return of the questionnaire.

h. **Details.** One part of the questionnaire from which the analyst can obtain useful data is the element on personal details. In deciding what personal details are required, the analyst will be guided by the requirement of the analysis. The analyst must ensure that the questionnaire asks for all the details that will provide meaningful data for the analysis, while at the same time not asking for details that are clearly irrelevant to the analysis, as by doing so this may tend to alienate some respondents. If the analyst requires some particular detail, but considers that the respondent may not realise why it is required, the analyst must explain the reason behind asking for the information. Increasing the degree of openness of the potential response received can be achieved by offering anonymity (discussed earlier) by not including clearly attributable details in the personal details. However, if anonymity is quoted it must be honoured. Questions over confidentiality cannot only taint the study but may also negate the chance for further open and honest dialogue.

i. **Dangerous questions.** There are certain types of questions which should be regarded as ‘dangerous’, producing inaccurate and immeasurable answers, or, at best, vague responses which can easily be misinterpreted:

1. **Multiple questions.** These have a variety of responses ‘Yes/Yes’ ‘Yes/No’ ‘No/Yes’ ‘No/No’. For example ‘Are you supervised at work and do you rely on manuals?’

2. **Negative questions.** These are difficult to understand and it is unclear what the response means. For example to answer ‘No’ to the question ‘Would you prefer not to have to account for this equipment?’ is confusing. Questions are more readily understood if phrased in the positive. For example ‘Do you think you should account for this equipment?’

3. **Leading questions.** Beginning the question with words such as ‘It’s obvious that...’ can influence the respondent’s reply. In the closed question format, limiting the fields of response to ‘Very Interesting’ ‘Interesting’ and ‘of some interest’ steers the respondent away from the response ‘Tedious’.

4. **Loaded questions.** These are similar to leading questions but tend to have an emotional overtone, for example ‘Have you stopped cheating in tests?’ and ‘Which aspects of your training were irrelevant?’

5. **Prestige bias questions.** Some questions may tempt the respondents to reply in a way that will present them in the strongest light, hence there might be a reluctance to admit that certain tasks are difficult or never carried out.

22. **Anonymous questionnaires.** Making the questionnaire anonymous (not adding clearly identifiable details which can be traced) has the advantage of encouraging more candid responses, increasing the degree of openness. However, its main drawback is that it is not possible to analyse the responses further, through follow up interviews. If anonymity is promised it must be honoured. Questions over confidentiality not only taint the study, but also negate the opportunity for further open and honest dialogue.

23. **Advantages and disadvantages of questionnaires.** When gathering data using written questionnaires analysts must be aware of the respective advantages and disadvantages:

a. **Advantages:**

1. Relatively cheap way of data collection.
(2) Large target population.

(3) Largely objective although there could be bias in analysis of qualitative responses.

(4) Potential to automate data entry and analysis.

(5) Can be anonymous.

(6) Questions can be asked in a consistent manner.

b. **Disadvantages:**

   (1) No guarantee of respondent identity.

   (2) Response rate may be low.

   (3) Impersonal - difficult to establish a rapport with respondent.

   (4) May be limited by length.

   (5) Investment needed to develop and pilot the questionnaire.

**Interviews**

24. **Purpose.** An interview is not an aimless chat but a method of obtaining specific information. An interviewer must work out beforehand what information is required; otherwise, the interview will be ineffective and a waste of time. The questions should be incorporated into an interview schedule, which will:

   a. Remind the interviewer of the areas that must be covered.

   b. Provide a framework for the interview and ensure that data are collected in a systematic and standardised way.

25. Interviews can be structured, semi-structured or unstructured (open ended); this refers to the degree to which the interviewer follows prescribed questions or deviates using prompts to gain further information from the interviewee. Generally, the more structured the interview, the more comparisons can be drawn between responses. However, unstructured interviews can provide richer data and may be useful if the interviewer has only a limited knowledge about the subject matter of the interview.

26. Interviews involve going outside the immediate training organisation to interview employing officers and ex-trainees at all levels in field units. Gaining entry to these units and access to those who are required for interview needs careful planning and proper authority. The question of the appropriate ranks of interviewer and interviewee should also be considered.

27. **The interview schedule.** The interview schedule can be regarded as a verbal questionnaire but differs from the written questionnaire in that the instructions are for the interviewer not the respondent (interviewee). The instructions should indicate:

   a. The amount/level of background information to be provided.

   b. The amount of prompting allowed.

   c. The method(s) of recording and interpreting responses.
28. The instructions should assist the interviewer in conducting the interview allowing them to place a mark against one of the responses already included on the sheet. However, there should be sufficient space to record open responses.

29. **General techniques of interviewing.** An interview is not an interrogation but a relaxed, two way exchange with the interviewer maintaining an open and understanding attitude. The interviewer must not, however, allow the interview to pass from their control. The structure of the interview must be decided beforehand on the basis of the information required. While the interviewer must be flexible and allow the subjects to express themselves, the interviewer must be firm and maintain control.

30. **Role of the interviewer.** The effective interviewer listens, adapts their approach to what is being said and avoids interpreting what is said to fit in with their own ideas. Interviewing is a skill that must be learned and practised. Although there is no one correct way of conducting an interview, the following guidelines may be of assistance:

a. **Rapport.** In order to establish good contact with the interviewee, the interviewer needs to:

   (1) Decide the purpose of the interview and what is to be gained from it.

   (2) Decide the questions to be asked during the interview.

   (3) Ensure that any information, reports or data required to back-up the interview are readily available.

   (4) Decide when the interview is to take place. Arrange a convenient time for both interviewer and interviewee so that there is no need to rush the interview.

   (5) Arrange a suitable location for the interview. Avoid discomfort or distractions. A comfortable room without a telephone is ideal. Telephone interruptions can destroy the relationship built up between the interviewer and interviewee. One of the most irritating distractions is that of people ‘ barging in’ during the interview. Prevent this from happening by placing an ‘Interview In Progress - Please Do Not Enter’ notice on the door.

   (6) A friendly, sympathetic, but emotionally detached relationship should be established to put the respondent at ease. This should gain their confidence and thus persuade them to talk freely and frankly about themselves.

   (7) Whenever a candidate has to wait in another room before the interview, the interviewer should always escort them into the interview room. In this way contact is made in less formal surroundings than the interview room; the rapport thus established can help to smooth the way into the interview itself.

   (8) The interviewer(s) should introduce themselves fully.

   (9) The interviewee should be told the reason for the interview.

   (10) Difficult or controversial topics at the beginning of an interview should be avoided. Allow the interviewee to get used to talking. This can be achieved by starting with an ‘easy to talk about topic’.

b. **Content.** The interviewer can elicit facts efficiently only if they ask the right sort of questions and pose them in an appropriate manner. The main points to note are:
(1) **Do not read out facts.** Repeating information that is already available in forms or publications wastes time and can antagonise the interviewee.

(2) **Use appropriate language level.** The interviewer should make sure the interviewee understands the questions using the most appropriate vocabulary for the interview.

(3) **Ask one question at a time.** Rambling, multiple questions confuse the interviewee and are difficult to answer. Keep questions simple, unambiguous and to the point.

(4) **Avoid leading questions.** Avoid questions that hint at the answer expected; some interviewees will tend to give the answer they think is wanted.

(5) **Avoid trick questions.** Trick questions that attempt to ‘catch out’ the interviewee provide little information and can endanger the contact that has been built up.

(6) **Use comparative questions.** It is easier for an interviewee to say which of two things he finds more difficult than it is for him to state how difficult something is in absolute terms.

(7) **Use open questions.** The interviewer should try to use questions beginning with words such as “tell me about...”, “how ...”, “when ...”, “why...”, rather than those which demand a simple “yes” or “no” answer.

c. **Control.** To ensure that the interview flows smoothly from topic to topic and control is retained, the interviewer should attempt to:

(1) **Avoid interruptions.** Interruptions can cut off the interviewee’s train of thought. The interviewer should interrupt only when necessary in order to avoid digression, or to regain control.

(2) **Use pauses wisely.** Do not rush to fill any pauses that may occur in an interview with another question. Pauses give both interviewer and interviewee a chance to consider what has been said and the interviewee may spontaneously continue with further information.

(3) **Handle delicate issues carefully.** On occasion it may be necessary to ask questions about topics which are emotionally charged or which may cause distress or embarrassment. These topics should be left until effective rapport has been established, introduced when a natural opportunity occurs and discussed in an open, objective, but tactful way.

(4) **Summarise.** It is useful occasionally to summarise what has been covered. This helps ensure that all the relevant points are covered and that the interviewee’s statements have been understood.

(5) **Be flexible.** The main advantage of the interview is its flexibility in that points can be followed up as and when they arise. This advantage will be lost if the interviewer follows a preconceived plan rigidly and without reference to what has been said. The interviewer must:

(a) Be prepared to adapt themselves to the natural flow of the interview.

(b) Follow up leads as necessary.
(c) Ensure that, in the end, all the information required has been obtained that is needed.

(6) **Recording Responses.** It is impossible to remember everything that was said in an interview. To avoid later distortion, interviewers must try to record responses during the interview, without breaking contact with the interviewer.

(7) **Beware of bias.** The purpose of the interview is to collect information as accurately and objectively as possible. The interviewer should guard against introducing bias by interpreting the replies to fit in with their preconceived ideas. It is also important to avoid biasing the replies by expressing approval/censure. The interviewer must suppress their own opinions and feelings and help the flow of conversation with neutral phrases such as “good”, “I see” or “go on”.

(8) **Interviewee questions.** After answering a series of questions it is reasonable to allow the interviewee to ask some of their own. These should be answered before ending the interview.

(9) **Thank interviewees.** Finally, end the interview on the right note and thank the interviewee for their help and information. Remember that it may be necessary to interview them again at a later date.

31. **Interviewing techniques checklist.** The following list is a summary of points to consider when conducting an interview as part of the data gathering process.

a. **Contact:**
   
   (1) Be prepared: ‘read in and ready’.
   
   (2) Ensure a suitable environment.
   
   (3) In time and enough time.
   
   (4) Introduce yourself (if necessary).
   
   (5) Be pleasant but not too amiable.
   
   (6) Make sure the interviewee knows the object of the interview.
   
   (7) Reduce tension.
   
   (8) Start with an ‘easy to talk about’ topic.

b. **Content:**
   
   (1) Do not read out facts from forms.
   
   (2) Use the appropriate language level and adjust as necessary.
   
   (3) Ask one question at a time.
   
   (4) Avoid leading questions.
   
   (5) Avoid trick questions.
   
   (6) Make use of comparative questions.
   
   (7) Use indirect open questions.
(8) Distinguish between skill and enthusiasm.

(9) Explore the reasons for statements.

c. **Control:**

(1) Avoid interrupting the interviewee.

(2) Use pauses widely.

(3) Handle delicate issues carefully and as opportunity occurs.

(4) Summarise from time to time.

(5) Be flexible rather than rigid.

(6) Use open, probing then linked questions.

(7) Follow leads given by the interviewee.

(8) Keep a balance between the points of your plan.

(9) Make notes.

(10) Beware of bias.

(11) Avoid ridicule.

(12) Give the interviewee chance to add points at the end.

(13) Answer interviewees’ questions and thank them.

32. **Recording responses.** It is rarely possible to record all that a respondent says during an interview and it would be of little value in any case since all the answers would then appear to be different. What is necessary is the grouping of answers under suitable headings, so that the completed schedule will indicate clearly and concisely what the interviewee may have taken a quarter of an hour to say. It is then appropriate for the interviewer to indicate how the answer has been recorded (e.g. “Am I right in putting you down as saying?”). This gives the respondent time to think again and for the interviewer to check that what has been said has really been understood. If the answer does not fit under an already accepted heading then it must be inserted under a new heading, which will in turn be available for all subsequent interviews. A pocket-dictating machine may be useful but permission must be gained to use one. Recording interviews can also inhibit interviewees.

33. Attempt to transcribe a recording is prohibitive due to the amount of time required. It may be worth considering the use of a second team member to record responses. This will leave the interviewer free to concentrate and develop the interview. A successful interview is dependent upon:

a. Careful planning.

b. Good questioning technique.

c. Establishing an effective good rapport with the interviewee(s).

34. **Advantages and disadvantages of interviews.** Interviews have the advantage of being flexible, allowing subjects not previously considered by the interviewer to be raised and explored.
They can be extremely time-consuming, hence they may be used to clarify issues raised from questionnaires for relatively small numbers. A structure must be developed (see Interview Schedule below to record the strength of opinions given. Interviewers and those analysing the data need to be trained if similar opinions are to be rated by different individuals. Once achieved, information obtained from different interviewers can be compared:

a. **Advantages:**

   (1) Easier to tailor to the audience. The interviewer can select only those questions that are relevant to a particular situation. This is particularly important when the Role in question is unusual and it would be time-consuming, costly and unacceptably bulky to produce a detailed questionnaire to cover all possibilities.

   (2) The interview can be conducted with reasonable speed (depending on circumstances).

   (3) Wide range of topics can be covered to required depth. Entirely new points of interest can arise. The interviewer can deal with these immediately and add them to the list of questions to be put to all remaining respondents.

   (4) Personal contact can reinforce commitment to study and raise response rate.

   (5) The interviewer can check that the respondent has understood technical expressions and terms which have been used in the questionnaire. For example, a term like ‘Defence Writing’ is open to numerous interpretations. To one person it may mean the mechanics of writing, i.e. layout, conventions etc, while to another it concerns matters of style and content.

b. **Disadvantages:**

   (1) Time intensive - not only the interview itself, but the analysis of data it produces.

   (2) Data may be of complex nature requiring structured/thematic analysis.

   (3) Requires experienced personnel to conduct the interview.

   (4) Lack of objectivity, further to which the relationship between interviewer and respondent can become confrontational limiting transmission of objective information.

   (5) Can be influenced by perception - there may be bias for, as well as against, a particular topic.

**Observations**

35. **Requirements.** Observation involves watching, recording and analysing. Observing a particular activity is influenced by the fact that human perception is highly subjective. The fact that an individual is equipped with functioning senses does not make that person a skilled observer. Different people looking at the same design or object will see different things, due in part to their interests, biases and backgrounds.

36. **Coding.** The observation may be unstructured, with the person who is observing being as open-minded as possible and using his or her judgement about which events are considered important. Alternatively, it may be highly structured by the use of coded schedules that guide attention to specific types of event. The categories that are selected will be those where changes
are expected as a result of training, or those that are thought to be particularly important to the success of the Role. Unstructured observations should be avoided. Use pre-determined criteria to increase the reliability and validity of the data collected.

37. **Advantages and disadvantages of observations.** Observation of procedure is important in the areas of skills training and relates particularly to the areas of speed, sequencing, manual dexterity and safety. As with questionnaires and interviews, to be effective, observations require formal structure in the form of an observation schedule. The advantages and disadvantages of gathering data by observation are highlighted as follows:

   a. **Advantages:**
      
      (1) Direct experience can be utilised.
      
      (2) Real time analysis.
      
      (3) Can be done without co-operation of operator.
      
      (4) Whole situation of activity is included.
      
      (5) Activity is placed in context - aids understanding.

   b. **Disadvantages:**
      
      (1) May lack objectivity - influenced by perception.
      
      (2) Potential blizzard of information.
      
      (3) May concentrate on unrepresentative individual(s).
      
      (4) False performance - operators aware of being observed.
      
      (5) Time intensive.

**Reports/logs**

38. **Training reports.** These should cover an ex-trainee’s Role performance and should be completed by the employing officer/line manager. Reports should be structured if they are to be of value. Examples of training reports are:

   a. RN: Form S3018.
   
   b. Army: Training Deficiency Reports.
   
   c. RAF: Training Improvement Form (TIF).

39. **Open-ended reports.** Open-ended report forms may be administratively feasible, but may suffer from lack of relevance, as the type of comment(s) required may not be clear to a reporting officer. In addition to which they may lack comprehensiveness, due to limitations of space and time. They are usually fragmentary and often misguided. Report forms using rating scales are designed to direct the reporting officer’s attention to specific behaviours. This enables reports of different supervisors to be accurately quantified. The main disadvantage of this method is the restriction it places on reporting officers’ freedom of expression, although this can be mitigated by provision of room for open-ended comments.

40. **Equipment reports.** These can be used to identify equipment malfunctions which may have training implications.
41. **Post Exercise Reports (PXRs).** These can be used to highlight the application of skills acquired during training in a realistic environment.

42. **Work records.** A study of the tasks carried out can give a reasonably accurate picture of the performance and the standards involved in a Role. Additional records containing details of time taken, lack of skills, incidence of accidents etc can sometimes complement these, which can be pointers towards areas of training deficiency.

43. **Log books.** The log book can be a valuable source of information. Its main value lies in that it allows a direct comparison to be made between what the ex-trainee is able to do as a result of training and what they are required to do when employed on an operational task.

### Analysing Collected Data

44. **Quantitative and qualitative data analysis.** Quantitative data by their very nature lend themselves to statistical analysis. However, with qualitative data there may be trends (patterns, themes) present, which could go unnoticed. One of the problems of dealing with qualitative data is the 'blizzard of information' that can be reproduced. This can often be unstructured in content and resource intensive in terms of manpower and time to analyse. Such considerations need to be included during initial project management planning. In analysing qualitative data the quality of the analyst must be taken into consideration, as unlike quantitative data analysis where the issues are more readily identifiable, qualitative analysis requires greater degree(s) of interpretation. Analysts must be conscious of the possibility of knee jerk reactions when confronting data for the first time.

45. Qualitative data allow a vast amount of (potentially wide-ranging) information to be considered, allowing the respondent to provide depth of feeling over complex issues which may be difficult to elicit by purely quantitative terms alone. That said, in order to obtain a full picture, qualitative data should not be treated in isolation, but should be compared with quantitative data.

46. **Triangulation of data.** Triangulation is the combination of different data gathering techniques to investigate the same issue and will usually combine both quantitative and qualitative data methods. For example, rather than simply completing a questionnaire in respect of how an individual performs a task, they might also be interviewed and observed conducting the task. The use of questionnaires together with observation, or qualitative with quantitative data gathering techniques, for example, can reduce the chance of distorting the results or introducing bias within the methodology. To that end triangulation allows greater confidence in the research results regardless of the data gathering methodologies applied.

47. **Information sources.** Collecting data can be gained from a number of different points of view: the Role holders (ex-trainees), the Role holders’ supervisors/line managers and the participant observer. The Role holders can reflect on the adequacy of the training they received, the line managers can comment on their performance when carrying out their Role. The observer can collect first-hand data of the Role holders conducting the Role tasks. Comparing these sources of information enables a more accurate and unbiased method of data gathering.

48. **Data combination.** The combination of different data gathering techniques to investigate a particular issue usually is a combination of both qualitative and quantitative methods:

   a. **Triangulation of analysts.** This uses 3 or more analysts to look at the same set of data independently. If similar findings come from all analysts then it is likely that objectivity is being applied.

   b. **Triangulation of data.** This involves 3 or more types or sets of data and subject them to the same analytical procedures. For example, if interview notes, questionnaire responses and observation notes produce similar findings it is likely that the analytical process is being applied objectively.
c. **Triangulation of target population.** This concerns 3 or more types of target population. For example, the ex-trainees, their immediate line managers/supervisors, commanding officers and trainers. If similar findings are produced it is highly likely that an objective picture has been achieved.

**Data Coding**

49. **Requirement.** Some form of coding (grouping, classification) is required before analysis can begin identifying themes:

   a. All information needs to be read thoroughly to obtain a clear picture of the main issues.

   b. Themes/patterns/trends need to be identified and clearly highlighted.

   c. Repeated instances of these themes need to be recorded in the form of ‘tallys’.

50. These ‘tallys’ can then be recorded as numerical responses allowing follow-on statistical analysis to take place.
AUDIT GUIDANCE

1. **Principles of audit.** Auditing is carried out in 3 stages:

   a. **Intent.** The first stage is to determine whether the local MTS complies with the QMS. For Defence training this stage of auditing involves checking the local TQM to check whether the requirements of the QMS are being met. This is known as the 'Intent of the MTS'.

   b. **Implementation.** The second stage is to check the extent to which the procedures in the local TQM are followed. This is known as the 'Implementation of the MTS'.

   c. **Effectiveness.** The third and final stage is to check how effective the procedures are in achieving the objectives and targets stipulated in the TQM. This is known as the 'Effectiveness of the MTS'.

2. **Audit findings.** It is important that audit findings, either good or less good, are reported with supporting objective evidence. This evidence can be documentary, verbal (if given by the person responsible for a particular activity) or it can be a product (training documentation). This evidence is then reported as either a ‘non-conformity’ or as an ‘observation.’

3. **Non-conformity.** This is where clear evidence exists to show that some aspect of the local MTS fails to comply with one or more of the elements within the QMS. For example:

   a. The local TQM does not contain a procedure to ensure that risk management is carried out on all training activities (intent).

   b. The TQM procedure for analysing test results is not being followed (implementation).

   c. EOs do not fully meet the Training Objective (TO) they are supporting (effectiveness).

4. **Observation.** There are 2 types of observation:

   a. Where good practice in a particular activity is observed (e.g. a unit may have developed a novel way of collating routine course feedback). This is known as a positive observation and auditors must search for these with the same diligence as they would look for non-conformities. After all, one purpose of auditing is to achieve performance improvement and this can be done just as effectively through the identification and dissemination of good practice as it can through the identification and rectification of poor practice.

   b. Where compliance with the QMS is evident, but good practice may not have been applied to the activity (e.g. the TQM meets all the requirements of the QMS but it is written in an unclear way using excessive technical jargon). This type of observation is often known as a negative observation.

5. **‘Root cause’ analysis.** The auditor should seek to determine the true or ‘root’ cause of a problem by repeatedly asking the question, “What is causing this?” Only when satisfied that there are no other apparent causes, can the auditor report their findings and make recommendations

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224 For 2nd party audits, ‘Good Practice’ will be reported as a separate occurrence to a negative observation.
Accordingly. This proficiency is not inherent and should be developed through training and through practice 'under instruction'. At Table 6 is an example of 'root cause' analysis.

<table>
<thead>
<tr>
<th>Scenario 1 Symptom: High failure rates during “entry test”</th>
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<tbody>
<tr>
<td>Auditor: &quot;What aspect of the entry-test are they failing on?&quot;</td>
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<tr>
<td>Answer: &quot;The physical fitness&quot;</td>
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<tr>
<td>Auditor: &quot;Why are they so unfit?&quot;</td>
</tr>
<tr>
<td>Answer: &quot;Because they don’t prepare for our standards&quot;</td>
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<tr>
<td>Auditor: &quot;Are the units and individuals aware of your standards?&quot;</td>
</tr>
<tr>
<td>Answer: &quot;In a way - the regulations state that they have to be at Class 1 level in all respects&quot;</td>
</tr>
<tr>
<td>Auditor: &quot;Do your physical fitness standards reflect Class 1 level?&quot;</td>
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<tr>
<td>Answer: &quot;No - they are higher than that&quot;</td>
</tr>
<tr>
<td>Root Cause: Inappropriate &quot;Entry Test&quot; standards</td>
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<tr>
<td>Corrective Action based on Initial Symptom: Develop a pre-course physical fitness programme for trainees</td>
</tr>
<tr>
<td>Corrective Action based on Root Cause: Rewrite test standards to reflect actual requirement</td>
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</tbody>
</table>

Table 6. Example of a ‘Root Cause’ Analysis.

6. **Roles of the auditor.** The auditor can be employed in many roles, depending on the type of audit that is being conducted and the culture of the Training Provider. When checking compliance with DSAT QMS and the TQM, the auditor is essentially an instrument of management who is there to measure the extent to which Defence’s policies are being implemented. Having identified non-conformities, the auditor should discuss possible corrective actions with the appropriate authority, and having suggested change, the auditor may also have a responsibility to help implement their recommendations. Finally, the auditor is often an interface between many of the stakeholders in the Training System being audited.

7. **Auditor competences.** To be successful, an auditor requires competence in several diverse areas. The following list of competences should be seen as the minimum requirement:

   a. **Auditing proficiency.** This proficiency is not inherent and should be developed through training and through practice 'under instruction'.

   b. **Legal requirements.** In certain training areas there may be legal requirements that the auditor has to meet, or professional standards with which they have to comply (e.g. all auditors involved in ISO 9001 accreditation must be registered with the International Register of Certificated Auditors (IRCA)).

   c. **Understand the process.** The auditor should have a full understanding of how the quality process works and how their function as an auditor affects that process.

   d. **Understand the culture.** If the auditor is to make pragmatic suggestions for corrective action, they should have a full understanding of the culture of the Training Provider (e.g. a recommendation to develop comprehensive or exhaustive written procedures may be seen by engineers as attention to detail, while others would view the same recommendation as over-bureaucratic).

   e. **Effective communicator.** An auditor needs to be an effective communicator in the first instance to ensure that their questions and requests for information are clearly understood. A misinterpreted question could well lead to an answer that does not accurately reflect the situation. It is also essential that, having identified the areas for improvement and the required corrective actions, the auditor has the ability to communicate their findings, in both written and verbal form.

8. **Personal qualities.** Primarily an auditor should be **honest, unbiased and objective**, reporting everything seen, but nothing felt or suspected. The auditor should always be **polite and**
helpful to fellow team members, audit clients and audit sponsors. They should be industrious in the conduct of the audit, always being punctual in arrival for meetings and interviews. They should always have a positive demeanour, and be communicative with the audit client, regardless of how badly the audit may be going or how many non-conformities are found. They should be totally principled and have the moral courage to defend their position and findings in an assertive way when challenged by others. Finally, the auditor should always be a team player, because even if they are alone, they are still part of a larger group working towards a common aim: conformity and performance improvement.

9. **Auditor training.** Training in the conduct of a 1st and 2nd party training audits is available at the Defence Centre of Training Support (DCTS), RAF Halton (part of the Defence Academy (DefAc)).
INSPECTION GUIDANCE

1. **Principles of inspection.** As a publicly funded department, Defence training may be subject to internal and external scrutiny. The following inspection activities are undertaken:

   a. **Care and Welfare inspections.** The Memorandum of Understanding (MoU) between Defence and Ofsted outlines the agreed methodology for the Ofsted inspections concentrating on issues of Care and Welfare support and examination of the self-assessment process. For such inspections the CIF is to be used. It is recommended that, as part of their 2\textsuperscript{nd} party assurance process, SCs integrate their 2\textsuperscript{nd} party inspections and audits to enhance their risk-based approach. Reports of these inspections should be sent to the TDA for appropriate action.

   b. **Skills Funding Agency (SFA) inspections.** SCs draw down funding from the SFA to support work-based learning provision that leads to nationally recognised qualifications such as Apprenticeships. The SFA is required to quality assure the work-based learning for which it provides funding. Reports are sent to Service Directors of Education (or equivalent), who draw down the SFA funding, for appropriate action.

   c. **Inspection by other national governing bodies.** This applies to some training carried out with the Department (such as, adventurous training, medical, accountancy) where external bodies are responsible for the content of training activities, qualification of staff and assessment Standards.

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225 Details of the CIF and inspection methodology can be found on the GOV.UK website:

226 This policy does not cover the requirement to have in place financial assurance of the funding drawn down from the National Employment Service.

227 SCs also report performance on SFA Funding against Defence Board Tasks as part of the Holding to Account (H2A) process.
# 1st/2nd Party Audit Documents Suggested Formats

## 1st/2nd Party Audit Report Suggested Format

<table>
<thead>
<tr>
<th>Department/Section Audited:</th>
<th>Audit Number:</th>
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<th>Procedures Audited:</th>
<th>Auditor:</th>
<th>Signature:</th>
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<tr>
<th>Area Audited</th>
<th>JSP 822 Mandated Activity Reference from Part 1, Chapter 1, Section 1.1 and Part 1, Chapter 2, Section 2.1</th>
<th>Record of observations/evidence sighted to support non-conformity or observation</th>
<th>NCR/Observation reference</th>
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**1st Party/2nd Party Non-Conformity Report Suggested Format**

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<tr>
<th>Auditors:</th>
<th>Department/Section Manager:</th>
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**NON-CONFORMITY:** *(brief description of the NCR, including references to procedure not being adhered to)*

**CORRECTIVE ACTION TO BE TAKEN:**

Target Date For Completion: __________

Auditee’s Signature: __________________________ Date: __________

(once signed, the Auditee is:  
a) agreeing with the Non Conformity  
b) agreeing to carry out the Corrective Action by the target date)

**REPORT ON CORRECTIVE & PREVENTATIVE ACTION TAKEN BY TARGET DATE**

Auditor/Quality Mgr’s Signature: __________________________ Date: __________

ACTION CONFIRMED AS COMPLETED

Comments:

Auditor/QMgrs Signature: __________________________ Date: __________
2nd Party Audit And Inspection Timeline Schematic

1. Agree Lead Auditor
   **Auditor – 6 Months**

2. Establish communications with key POC, agreeing provisional dates for scoping visit and Audit/inspection
   **Audit – 5 Months**

3. Undertake a Scoping Visit to the Training Provider
   **Audit – 5 months**

4. Write formal confirmation letter to CO, including request for pre-Audit information and ask for return no later than 1 month before the Audit
   **Audit – 3 months**

5. Allocate staff to Audit team, if possible arrange for an SME to either Audit or be available for the Audit in order to assist in specialist areas
   **Audit – 3 months**

6. Confirm Audit programme, including scope/coverage/sample size with Audit key POC
   **Audit – 6 weeks**

7. Gather useful additional info including Ofsted reports, ExVal, POR, PXR, etc and arrange visit administration
   **Audit – 1 month**

8. Arrange and circulate pre-Audit documentation, consultancy information, and past reports to Audit team members
   **Audit – 3 weeks**

9. Hold pre-Audit team briefing
   **Audit – 2 weeks**

10. Confirm final Audit details with key POC at the Training Provider
    **Audit – 1 week**

11. Audit and Inspection
    **Audit + 3 weeks**

12. Despatch report to CEB Chair, CO of Training Environment (Training Provider), TRA, and copy to Sec of the DTEAWG
    **Audit + 3 months**

13. The Training Provider should publish its action plan addressing any NCs or Observations
    **Audit + 3 months**

14. Arrange and conduct follow up / progress visit, referencing the unit’s post Audit Action Plan
    **Audit + 6 months**

15. Issue follow-up / progress visit report and arrange additional consultancy (if required)
    **Audit + 7 months**

16. The Training Provider should publish its action plan addressing any NCs or Observations
    **Audit + 3 months**

17. Despatch report to CEB Chair, CO of Training Environment (Training Provider), TRA, and copy to Sec of the DTEAWG
    **Audit + 3 months**
2  Defence Guidance for Training and Education Capability (DTEC)

2.1  DTEC Modelling and Simulation Rules

THE CONTENT OF THIS CHAPTER CAN NOW BE FOUND IN JSP 939:

DEFENCE POLICY FOR MODELLING & SIMULATION (M&S)
3 Defence Guidance for Training Management Information Systems (TMIS)

3.1 Training Administration and Financial Management Information System (TAFMIS-T)

Policy Sponsor: Individual Development Branch, Army HQ

The Training Administration and Financial Management Information System (TAFMIS-T) is Defence’s principal TMIS. It supports the management of the training pipeline, the development and delivery of training and the full and professional application of the DSAT. TAFMIS-T automatically updates Joint Personnel Administration (JPA) with details of training history and competences awarded in training. The footprint of TAFMIS-T users is limited to certain people involved in individual training support and management activities in SCs and Defence Training Providers.

JPA is Defence’s principal Service Personnel (SP) MIS and the authoritative source of the Service records it contains. Within JPA, the Oracle Learner Management (OLM) system, (also known as JPA Administer Personal and Professional Development (AP&PD)) has limited but useful TMIS functionality for course administration and can be used as a secondary TMIS by organisations that do not have TAFMIS.

Scope

1. This Guidance applies to all Royal Navy, Army, Royal Air Force and Joint Individual Training Providers throughout Defence that use TAFMIS-T. This policy focuses on TAFMIS-T users and managers but also covers JPA OLM for those providers not provided with access to TAFMIS-T.

2. It is mandated that all organisations provided with TAFMIS-T are to use TAFMIS-T to manage the individual training, events, processes and resources of people engaged with Phase 1, Phase 2 and Phase 3 training. This is essential to ensure a consistent approach to DSAT and to provide coherent and complete management information across Defence. All other individual training organisations must instead use JPA OLM for course bookings, the recording of competences and completing training history. The course naming conventions laid down in JSP 794 are to be used, where possible, on both TAFMIS-T and JPA OLM. JPA contains the master list of competences for both systems – new competences cannot be created in TAFMIS-T. The protocols for change are laid down in JSP 794.

TAFMIS-T

3. TAFMIS-T is delivered to Defence using a Service Delivery contract with ISS as the Service Delivery Contractor (SDC). The SDC is responsible for delivering the capability specified together with its full service management, including a dedicated helpdesk, accessed via the DII Single Point of Contact (SPOC). The TAFMIS-T contract is managed on behalf of Defence by ARITC MIS Branch. All change requests and issues that cannot be resolved via the SPOC should be referred to ARITC MIS Branch. The areas where TAFMIS directly supports the DSAT process are listed at Annex A.

4. TAFMIS-T Managers. All Defence training sites identified for, or supplied with, TAFMIS-T are to appoint a TAFMIS-T Manager. The TAFMIS-T Manager will be the single point of contact

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228 It should be noted that anybody appropriate on the footprint of JPA can be made a Course Administrator.

229 JSP 794, Defence Policy for Personal and Professional Development (AP&PD) on JPA.
for that site and are to follow the ToRs for TAFMIS-T managers at Annex B. Initial nomination of and any change to a site’s TAFMIS-T Manager is to be notified to the appropriate Headquarters. Service Headquarters should advise ARITC MIS Branch of all changes to TAFMIS-T Managers.

5. **Points of Contact (POC).** Key POCs are shown at Annex C.

6. **TAFMIS-T Standard Operating Procedures (SOPs).** In order to promote a TMIS consistent throughout Defence training, thereby ensuring that practices and data are consistent, all sites are to use the TAFMIS-T Workbooks and Quick reference Guides for each of the TAFMIS-T modules. These are available via the TAFMIS Portal on the TAFMIS SharePoint site230. Further detailed information and instructions on new releases to TAFMIS are also held on the TAFMIS SharePoint site along with a variety of service management forms.

7. **TAFMIS-T desktop infrastructure requirement.** TAFMIS-T is designed to be accessed from DII(F) desktops and laptops across an RLI-connected infrastructure. Where DII(F) is not available, RLI-connected infrastructure is needed at the DII(F) desktop build standard. Failure to do this may affect the performance of the TAFMIS-T software.

8. **TAFMIS-T maturity.** A Maturity Model231 has been developed to provide assurance on the usage of TAFMIS to the SRO. Each Service HQ is to manage the maturity of the usage of TAFMIS-T across all sites for which they are responsible. Maturity in the usage of TAFMIS-T is to be assessed on a scale of 1 to 4 where 1 is immature and 4 is fully mature. The default target utilisation within units is currently **Level 3** for all relevant TAFMIS-T modules. However, where there are practical constraints that prevent an establishment from using TAFMIS-T at **Level 3**, they should agree an appropriate target utilisation level in consultation with their relevant Service HQ. Maturity model reviews are to be conducted by each Service on, at least, an annual basis and development plans agreed accordingly. Training Providers are to facilitate assessments by nominating an appropriate officer, at each training establishment, who will be responsible for agreeing maturity model ratings with their nominated SDC Business Support232 representative and informing ARITC MIS Branch. Business Support representatives can be contacted through local TAFMIS-T Managers.

9. **Training Provider TQM and general orders.** In order to ensure consistency of use and compliance with procedures via 1st and 2nd party audits, details on the use of TAFMIS-T are to be laid down in the TQM and general orders of each Training Provider.

10. **User training.** Users must be TAFMIS-T trained to a level appropriate for their role. Users may be granted access to TAFMIS-T prior to attending TAFMIS-T training, but they are required to complete the relevant courses within 3 months of appointment. If a user fails to complete training within the prescribed time, their supervising TAFMIS-T Manager will be notified that system access will be withdrawn from that user until such training is completed successfully. Descriptions, dates and booking procedures for TAFMIS-T courses can be obtained from TAFMIS-T Managers.

11. **TAFMIS-T Change Management, Communities of Interests (COI) and Good Practice.** Steady state TAFMIS-T Change Management, COI and Good Practice should be managed for Defence by the TAFMIS-T Project Steering Group. This Group, under an agreed Chair, should include appropriate representation from each Service’s Training Headquarters and Training Policy Directorate, the DLMC Programme Director and Hd ARITC MIS Branch. Each module within TAFMIS-T should have a COI which will operate on a mix of SharePoint/MOSS and face-to-face meetings, facilitated by ARITC MIS Branch and supported by the TAFMIS-T SDC.

**TAFMIS-T modules**

12. **Course and Student Administration (CA).** Essential management information is gathered by the system from CA users dealing with such areas as Course Administration, Student

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230 [http://artdefriends.tafmisweb.tafmis.r.mi.uk/teams/tafmistraining/default.aspx](http://artdefriends.tafmisweb.tafmis.r.mi.uk/teams/tafmistraining/default.aspx)
231 [http://cu1.uk.dii.l.mil.uk/r/354/RTIC/TAFMIS%20Maturity%20Model/Forms/AllItems.aspx](http://cu1.uk.dii.l.mil.uk/r/354/RTIC/TAFMIS%20Maturity%20Model/Forms/AllItems.aspx)
232 The TAFMIS-T contract includes the provision of business support from the SDC.
Administration and Trainee Tracking. These functional areas provide managers with visibility of trainees from recruitment through to assignment to the SCs equipped for operations. Consequently, this module, including the Trainee Tracking function, is to be fully implemented by Training Providers as a first priority.

13. **Training Analysis Developer (TAD).** TAD supports the DSAT design process for Training Requirement Authorities (TRAs) and Course Design Cells (CDCs). Given the effort involved in migrating to TAD, CDCs who are not already using TAD must liaise with TRAs to prioritise the migration to TAD. TAD will automatically populate fields throughout the course folders, such that as the TRA migrates courses, the CDC will be able to access TAD course documentation. Consequently, all training units not already using TAD are to aim to use TAD in its entirety as soon as possible. It is recognised, however, that the migration of large quantities of legacy information into TAD by Training Development Teams (TDTs) and CDCs new to TAFMIS-T is challenging. As a result, the SDC will be available to assist in the change process where needed.

14. **Templates (CME).** The Templates module is used to create a graphical model of how elements of the course will be run from start to finish. It allows definition of the number of lessons per day or week, time flow of lessons linked to the course calendar and examination positioning. Resource and trainer requirements and TOs can be added to individual or multiple elements. This provides information on the resources used for training, with a forward projection of resource requirements and, potentially, costs. An important aspect of the Templates module is that it enables the capture of information necessary to improve management of resources, balancing their use to achieve greater efficiency. Templates also provide links into courses to automate InVal. As a minimum, Training Providers are to show each course in sufficient detail to support an accurate assessment of the utilisation of trainers and those key resources with a significant associated cost. The design of courses that call on several different, costly resource types for different lessons/events will need to be prioritised for production in more detail. Data input into the Templates module provides automatic inputs to other modules – for instance, it is essential to identify the ‘test’ elements in course templates in order to allow the Assessment and Validation modules to function.

15. **Planning and Scheduling Tools (PST).** Training Providers are to use PST. To meet the minimum requirement for use, the current year’s ‘schedule’ must hold a programme of courses with associated start and end dates, as well as associated key resources. This enables trainee administration, InVal and trainer/resource management to be accomplished using TAFMIS-T. In addition, skeleton schedules must be created as far into the future as is required to support ‘Trainee Tracking’ assignments and ‘Recruit Allocation Planning’. By fully utilising PST, Training Providers will be able to:

   a. Manage resource shortfalls.
   b. Find the best dates for courses based on the course template and availability of resources.
   c. Schedule non-course activities.

16. **Resource management.** The resource management module identifies the requirement for resources that are required to deliver training and is to be used. Training Providers are to use TAFMIS-T to define those resources that are significant cost drivers or of greatest importance and utility to their own schedulers and resource managers. The Service and Joint individual training HQs are to work together to deliver standardisation of naming of resources to enable balancing and sharing of key resources across Training Groups, Commands and Services where this is sensible.

17. **Trainer management.** The trainer management module identifies the requirement for trainers that are required to deliver training and Training Providers are to enter trainer details in
TAFMIS-T and use the facility to manage trainers. TAFMIS-T supports the management of trainers in relation to training and non-training activities.

18. **Course assessment.** The Course Assessment module provides the functionality to manage question banks, exams and statistics, and to create questionnaires and must be implemented. The scanning software enables the automated input of answer sheets.

19. **InVal and ExVal.** The TAFMIS-T module that supports InVal and ExVal is called Course Validation. InVal supports course evaluation during and at the end of courses and is usually carried out by Training Providers. ExVal is the responsibility of the TRAs. Where available to TRAs, they are to use this module. The primary purpose of ExVal is to determine the impact on performance after training activity and, therefore, the validity of the training in preparing individuals for their Role. It measures changes in the behaviour of individuals as a result of a training activity and how well the enhancement of KSA has prepared individuals for their Role. Findings from ExVal may be used by the TRA during TNA in the review of the Role PS.

### Information Systems and Data

20. At the Headquarters level a Business Intelligence (BI) cell is needed to address corporate information needs. The requirement is to gather, collate, analyse and report management information on the performance of the recruiting and training pipeline to provide BI in order to support the commanders' decision processes. TAFMIS provides two Capabilities for the provision of management information and business intelligence:

a. **Business objects.** Business Objects is the reporting software that enables the extraction of day-to-day reports and management information from TAFMIS-T, which can then be published on SharePoint/MOSS. Business Objects must be used to prepare all reports on training data within the scope of TAFMIS-T in order to:

   (1) Minimise the need for duplicating and/or re-keying data.

   (2) Support the Defence intent of establishing ‘one version of training truth’.

Reporting protocols and needs will be promulgated by the respective Headquarters, consistent with a common approach across Defence.

b. **Enhanced Management Information System (EMIS).** The EMIS Data Warehouse is an extension to the TAFMIS Management Information capability across recruiting and training to meet the emerging need for Business Intelligence. EMIS provides stakeholders, through visibility and exploitation of data, with accurate management information to:

   (1) Deliver management information in an agile manner so that decisions can be made.

   (2) Enable better informed management reducing the potential for data mismanagement.

   (3) Increase the effectiveness and, where possible, efficiency of the recruiting and training pipeline.

21. **MOSS/SharePoint.** The output of Business Objects reports can be converted into PDF, Word or Excel documents for publication to designated MOSS/SharePoint sites appropriate to the Customers for the reported information. In this way, the number of Business Objects licences can be kept to a minimum.

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233 The ARTD Recruiting and Training Information Cell (RTIC) provides this service on behalf of the SRO and all TAFMIS users.
22. **System interfaces.** The TAFMIS-T module suite is an integrated design intended to support all the principal functions of training design and administration. Data entered into TAFMIS-T is shared amongst several systems including TAFMIS Recruiting (TRHJ), which is planned to be replaced by the Recruiting Partnering Programme (RPP) recruiting solution and JPA. All of these systems rely on the timely and accurate input of data to ensure the underlying processes work correctly and accurate management information is available. The system interfaces have been developed to support the concept of ‘enter data once, use many times’. This means that some of the data captured throughout recruitment and training is passed to JPA to be recorded on an individual’s record of service, enduring throughout their entire career.

23. **Data exchange.** Data is exchanged between the TAFMIS modules in a number of ways:

   a. **TAD.** TAD provides a mechanism for creating, storing, amending and linking the data required for course analysis and design. TAD supports the DSAT process from organising the results of a RA through to developing a full LSpec. At the relevant stages, approvals and authorisations are available to support the exchange of information between TRAs, TDAs and Course Design Cells. Data from TAD is used in Templates.

   b. **Templates.** Templates provide functionality to design a course and define the duration, timing, content, resource and trainer requirements. Data created in Templates is used in Scheduling, Trainer and Resource Management and assessment and validation.

   c. **CA.** CA includes functionality to administer courses and trainees, manage resources, trainers and accommodation and conduct trainee tracking and pipeline management. Data is exchanged between these functions, with TRHJ, scheduling, CME and JPA.

   d. **PST.** PST supports the process of adding the correct number of courses to a schedule in order to meet the SOTT based on the SOTR for each Training Year (TY), while attempting to schedule courses to satisfying the training requirements within the resources available. Data from PST is exchanged with the CA module.

   e. **Course assessment.** This supports InVal through the use of question banks, exams, statistics and scanning software. Results are displayed in CA modules.

   f. **Course validation.** Provides functionality to Course Design Cells and TDTs to create and scan questionnaires in support of course evaluation and ExVal.

   g. **Business Objects.** This is a management information tool that supports day to day reporting and management information reports.

   h. **EMIS.** This is the corporate business intelligence capability in TAFMIS that extracts a sub-set of the data entered by users of the systems described above and is used to provide coherent management information.

   i. **FOTIS.** This is a spreadsheet-based adjunct to TAFMIS that is used to produce the SOTR.

24. **Integration with other systems.** The integration between TAFMIS-T and other systems means that any changes to the implementation or use of one could have an impact on the others. As a consequence, all system changes need to be considered carefully and must be authorised by the appropriate Headquarters and, where necessary, at the Programme level.

25. **Data quality and data changes.** It is essential that organisations actively monitor and manage data quality so that the full benefits of TAFMIS-T and EMIS can be realised. In order to monitor the quality of data held in TRHJ and TAFMIS-T, Training Providers are to implement a system of validating the data entered into the systems and include this in their TQM. When
instances of duplicate records, incorrect service numbers and records assuming a previous state (e.g. a trainee marked back on site by TAFMIS-T after being marked off site, or data entered by site, which is then overwritten by TAFMIS) are identified, users are to raise a data change request using the appropriate form on the TAFMIS Portal. Further action may require the submission of a TF and sites are to follow the current guidelines laid down by the TAFMIS-T Service Manager.

26. **Responsibility for data quality.** Within each Service's individual training headquarters, a role is to be nominated to take overall responsibility for TAFMIS-T data quality. Within each Training Provider, a 'Data Champion' is also to be appointed with overall responsibility for data quality. Across individual training at all levels, the active monitoring and management of data quality is to take place so that the full benefits of TAFMIS-T can be realised. Advice and Guidance for all data quality issues can be requested from the Business Intelligence Cell.

27. **Business Intelligence Service.** The Business Intelligence Service is located in HQ ARTD Trg Ops and its aim is to exploit the information available from TAFMIS. It provides the following services:

   a. Advising on Management Information (MI) and Business Intelligence (BI) as required to support the business.

   b. Advising on TAFMIS data structures and data quality issues.

   c. Enhancing TAFMIS modules and implementing data patches as required to address specific data quality issues.

   d. Advising on business processes associated with data quality issues.

   e. Providing support to the recruiting and training information cell (RTIC).

Annexes:

A. TAFMIS support to the DSAT Process.
B. Roles and Responsibilities of TAFMIS-T Managers.
C. Single Service Points of Contact for TAFMIS-T.
TAFMIS SUPPORT TO THE DSAT PROCESS

Element 1
What is the requirement; is a new or amended training activity needed; and, if so, what kind?
Analysis

Element 2
What should the training activity look like; who will deliver it, and with what resources?
Design

Element 3
The training activity is delivered.
Delivery

Element 4
Is the training activity being delivered correctly and does it meet the requirement? Is the whole Training System fit for purpose?
Assurance

TAFMIS Modules
- Training Analysis Developer (TAD) TOT
- Training Analysis Developer (TAD) School
- Templates CME
- Course Scheduling CS
- High Level Plan HPL
- Course Assessment InVal
- Resource Management RM
- Student Administration SA
- Timetabling
- Instructor management IM
- External Validation ExVal
- Course Assessment ExVal
ANNEX B TO
JSP 822 PT 2, CH 3, SECT 3.1
DATED JUN 19

ROLES AND RESPONSIBILITIES OF TAFMIS-T MANAGERS

1. **Note:** it is not intended that these roles and responsibilities constitute the ToRs for the role of TAFMIS-T Manager.

2. **TAFMIS Managers** shall:
   
   a. act as the authorised Site/Training Provider point of contact for the provision of the TAFMIS service for the duration of the contract. At larger Sites where several Training Providers are co-resident it is likely that more than one TAFMIS Manager may be appointed.
   
   b. inform the TAFMIS Help Desk of their contact details, TAFMIS log-on and area/unit of responsibility.
   
   c. advise the TAFMIS-T Service Manager of permanent or temporary changes of appointment.
   
   d. oversee local service management issues, trouble-shooting and the monitoring of local service usage.
   
   e. support the Provider/Site Business Change Lead.
   
   f. be the focal point for contingency and disaster recovery actions.
   
   g. ensure that Service Management and other TAFMIS procedures are followed at the Site.
   
   h. administer account/password issues for TAFMIS users at the Site.
   
   i. monitor incidents and other help calls for their site/Provider and advise the TAFMIS-T Service Manager of such problems if they are not cleared up quickly.
   
   j. allocate staff to training places notified by HP and ensuring attendance of those nominated.
   
   k. distribute joining instructions provided by HP in a timely manner.
   
   l. ensure the timely attendance of new staff/new TAFMIS users on training courses required for their level of access.
   
   m. ensure users are able to access ARITC SharePoint pages relevant to TAFMIS users.
   
   n. ensure users understand the access to the TAFMIS Helpdesk service via the SPOC.
o. provide a site conduit to ARITC TAFMIS Service Management team, the TAFMIS ITSO and the TAFMIS Project/Requirements Managers in ARITC MIS Branch.

p. manage all Site change request Task Forms (TFs).

q. ensure users are able to access TAFMIS Training SharePoint pages with access to User Guides, release notes and other reference and training material.

r. ensure the Site or Training Provider for which they are responsible is appropriately represented at TAFMIS Managers briefings and Module Communities of Interest (COI).

3. **Routine Assistance.** For day to day help and advice there are 4 elements of support:

   a. The HP dedicated Site support representative who will report to the TM every time they visit the Training Provider, ensuring that a good working relationship is maintained.

   b. The TAFMIS Helpdesk (contacted via the DII SPOC).

   c. The ARITC MIS team for Service Management; contact details below. This is primarily for situations where the TM feels the HP support provided is not solving a particular issue.

   d. Business Intelligence Service; advice relating to Management Information (MI) and Business Intelligence (BI) as required for the business

4. **Points of Contact:**

   a. DII SPOC.

   b. ARTD Service Management:

      (1) ARITC MIS SO2 Service Mgr and POC for these ToRs. Civ 01980 618062; Mil 94344 8062 Email: ARTD-MIS-Service Mgr SO2.

      (2) ARTD MIS SO3 Performance Coord. Civ 01980 615027; Mil 94344 5027 Email: ARTD-MIS-TAFMIS Performance SO3.

   c. Recruiting and Training Intelligence Cell (RTIC):

      (1) ARTD RTIC S02 IX Civ: 01980 615758; Mil: 94344 5758 Email: ARTD-RTIC-IX-SO2.

      (2) ARTD RTIC Information Manager Civ: 01980 615040; Mil: 94344 5040 Email: ARTD-RTIC-Information Mngr.
## Single Service Points of Contact for TAFMIS-T

### Royal Navy

<table>
<thead>
<tr>
<th>POC for policy issues</th>
<th>POC for operational issues and TAFMIS-T Managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 Ind Trg Pol</td>
<td>SO3 TMIS OPS</td>
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<tr>
<td>Navy Command Headquarters</td>
<td>Navy Command Headquarters</td>
</tr>
<tr>
<td>Leach Building</td>
<td>MP 3-</td>
</tr>
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<td>Hampshire</td>
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</tr>
<tr>
<td>PO2 8BY</td>
<td>Hampshire</td>
</tr>
<tr>
<td>Tel: 93832 5791</td>
<td>PO2 8BY</td>
</tr>
<tr>
<td>MODNET: NAVY TRG HQ-IND TRG CAP POLSO2</td>
<td>Tel: 93832 5808</td>
</tr>
<tr>
<td></td>
<td>MODNET: NAVY TRG HQ-TMIS OPS SO3</td>
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### Army

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<thead>
<tr>
<th>POC for policy issues / Management Information</th>
<th>POC for operational issues, TAFMIS-T Managers and all services on service management issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO2 Business Intelligence</td>
<td>SO1 Information Capability</td>
</tr>
<tr>
<td>ARITC Ops Branch</td>
<td>Information Application Services</td>
</tr>
<tr>
<td>Building 370</td>
<td>The Army Software House</td>
</tr>
<tr>
<td>Trenchard Lines</td>
<td>Information Services Department</td>
</tr>
<tr>
<td>Upavon, Pewsey</td>
<td>Directorate of Information</td>
</tr>
<tr>
<td>SN9 6BE</td>
<td>Upavon</td>
</tr>
<tr>
<td>Tel: 94344 5758</td>
<td>SN9 6BE</td>
</tr>
<tr>
<td>MODNET: ARTD-RTIC-SO2-BI</td>
<td>Tel: 01980 615121</td>
</tr>
<tr>
<td></td>
<td>MODNET: Army Info-IS-IAS-IS Cap SO1</td>
</tr>
</tbody>
</table>

### TAFMIS IT Security Officer

- SO3 Security Compliance
- Army Directorate Information
- Information application Services
- Information Services Department
- Andover
- SP11 8HT

| MODNET: Army Info-IS-IAS-Gov-ComplSO3 |

### Royal Air Force

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<tr>
<th>POC for policy issues</th>
<th>POC for operational issues and TAFMIS-T Managers</th>
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<td>SO3 Trg Pol</td>
<td>SO2 IX</td>
</tr>
<tr>
<td>HQ No 22 Gp</td>
<td>HQ No 22 Gp</td>
</tr>
<tr>
<td>Room 4, Hunter Block</td>
<td>Room 4, Hunter Block</td>
</tr>
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<td>RAF High Wycombe</td>
<td>RAF High Wycombe</td>
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<tr>
<td>Buckinghamshire</td>
<td>Buckinghamshire</td>
</tr>
<tr>
<td>HP 14 4UE</td>
<td>HP 14 4UE</td>
</tr>
<tr>
<td>Tel: 95221 6160</td>
<td>Tel: 01494 495926</td>
</tr>
<tr>
<td>DII: 22TrgGp-TrgPol SO3</td>
<td>DII: 22TrgGp-TRPM SO2 IX</td>
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# 4 Definitions, Abbreviations and Acronyms

## 4.1 Definitions of Terms used within JSP 822

**Sponsor:** TESRR, CDP

<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2</td>
<td>1st Party Audit and Inspection</td>
<td>1st party audit and inspection is assurance activity conducted for internal purposes by all parties for the DSAT activities they undertake themselves. This will form the basis of an organisation’s self-declaration of conformity and provide the basis for CI.</td>
</tr>
<tr>
<td>4.3</td>
<td>2nd Party Audit and Inspection</td>
<td>2nd party audit and inspection is assurance activity conducted by Defence organisations external to the activities that are within the scope of the audit and inspection.</td>
</tr>
<tr>
<td>4.4</td>
<td>3rd Party Audit and Inspection</td>
<td>3rd party audit and inspection is assurance activity conducted by organisations external to the MoD. An example is an Ofsted inspection commissioned to examine Care and Welfare.</td>
</tr>
<tr>
<td></td>
<td>Ability/Abilities</td>
<td>Possession of the means or skill to do something.</td>
</tr>
<tr>
<td></td>
<td>Activity</td>
<td>In the context of JSP 822, an ‘activity’ is any single process or output product of the DSAT.</td>
</tr>
<tr>
<td></td>
<td>Advisor</td>
<td>A COTS tool used by Defence to assist in Methods and Media Selection. Advisor which is particularly useful to discern the training blend.</td>
</tr>
<tr>
<td>1</td>
<td>Analysis</td>
<td>Examination of the new or changed (or perceived new or changed) requirement against the question: What is the requirement; is a new or amended training activity needed; and, if so, what kind?</td>
</tr>
<tr>
<td></td>
<td>Aptitude</td>
<td>The natural ability to acquire and utilise specific Skills and/or Knowledge.</td>
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<td></td>
<td>Aptitude Test</td>
<td>A measure of abilities that are assumed to be relevant to future Performance in a specific type of Skill or an area of achievement.</td>
</tr>
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<td></td>
<td>Assessment</td>
<td>A judgement based on a comparison of measured performance against a Standard.</td>
</tr>
<tr>
<td></td>
<td>Assessment of Learning</td>
<td>A method to determine whether learning has occurred which requires making a judgement on trainee Performance and progress, then to decide whether the trainee is sufficiently competent in a particular Role or Task to be qualified for employment and/or work with or without supervision.</td>
</tr>
<tr>
<td>DSAT Process Ref</td>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>2.4.2</td>
<td>Assessment Specification (ASpec)</td>
<td>A document describing the organisation, type of test, marking details, pass/fail criteria for the assessment of TOs/CTOs and the consequences of failure. It provides the practical details required to assess the achievement of the Standards specified by an associated TO/CTO.</td>
</tr>
<tr>
<td>2.4</td>
<td>Assessment Strategy (AStrat)</td>
<td>The document describing the overarching assessment policy for the course/module and the associated rationale. It must include the consequences of failure of specified elements of the course/module and include any 'Return to Unit' policy for infringement of values and standards etc.</td>
</tr>
<tr>
<td></td>
<td>Assumption/Assumptions</td>
<td>Unconfirmed statements to be taken as facts. In the context of a new or changed requirement, they usually relate to policy and the use of previous or associated studies. In a TNA, assumptions must be stated to ensure that the direction, outcomes and effectiveness of the TNA is within defined boundaries. If the new requirement involves equipment using emerging technology, then analysis may be more subjective than objective during product development stages and therefore must be stated as an assumption.</td>
</tr>
<tr>
<td>1.2.4</td>
<td>Assumption Register</td>
<td>A repository of unconfirmed statements to be taken as facts.</td>
</tr>
<tr>
<td>4</td>
<td>Assurance</td>
<td>An all-encompassing term used to describe the evaluation, audit and inspection activities of the Training System. Assurance answers the questions: is the training activity being delivered correctly and does it meet the requirement? Is the whole Training System fit for purpose?</td>
</tr>
<tr>
<td>1.3.4A</td>
<td>Attitude</td>
<td>A learned pre-disposition to think, feel and behave towards a person (or object) in a particular way. People have Attitudes resulting in a tendency to act or react in a certain manner when confronted with another person, group, object, situation or idea. Attitudes may be positive or negative, rational or irrational. Attitudes are related to personal values, beliefs, motives and emotions and manifest themselves in overt acts or expressions. They can also be related to groups and the defined attitudinal position of a group and is often expressed as social ‘norms’.</td>
</tr>
<tr>
<td></td>
<td>Audit</td>
<td>A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which it meets set assessment criteria.</td>
</tr>
<tr>
<td></td>
<td>Behaviourally Anchored Rating Scales (BARS)</td>
<td>Scales which can be used to rate performance by observing behaviour. They can be used to assess skills and attitudes which are difficult to assess more directly. For example interpersonal and communication skills can be measured using BARS. In addition, Attitudes can be measured indirectly by observing behaviour.</td>
</tr>
<tr>
<td></td>
<td>Blended Learning</td>
<td>A combination of two or more distinct Methods used to create the most effective and efficient learning solution. Blended Learning can utilise Technology Enhanced Learning.</td>
</tr>
<tr>
<td></td>
<td>Care and Welfare</td>
<td>MOD’s legal and moral obligation to care for the well-being of recruits/trainees.</td>
</tr>
<tr>
<td></td>
<td>Certification (Collective Training)</td>
<td>Agreement by the TRA that a force or FE can be operationally deployed, including the acceptance of any risks. This may include recertification following a force sustainment phases, such as deployed (continuation or in-theatre) training or a change of operational Role.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td>Child</td>
<td>The Children Act 1989 defines a child as any person under the age of 18 years.</td>
<td></td>
</tr>
<tr>
<td>Coaching</td>
<td>In the context of this JSP, coaching is about unlocking a trainee’s potential in order to improve and maximise performance. It is more about helping them to learn for themselves than teaching them. In the context of DTC, coaching is unlocking potential in order to improve am maximise performance. A coach is not necessarily an SME.</td>
<td></td>
</tr>
<tr>
<td>Collective Training (CT)</td>
<td>Training aimed at improving the ability of teams, units or formations to function as a cohesive entity and so enhance operational capability.</td>
<td></td>
</tr>
</tbody>
</table>

| Collective Training (CT), Tiers of Component, Joint and Combined | Tier 0 training prepares individuals to operate as teams below Unit level (Individual training). Tier 1 training prepares units and sub-units to take their place within a tactical formation or Combined/Joint Force Component. Tier 2 training prepares tactical formations operating below the Combined/Joint Force Component level for operational employment. Tier 2+ Collective Training prepares one or more Combined/Joint Components for operational employment. It may be conducted in combined or joint contexts on a UK, NATO or Coalition Partner framework basis. This Tier is of particular significance with enduring NATO requirements and the next higher HQ in such training will be the Joint Task Force (JTF) HQ. Tier 3 training prepares a Combined/Joint Task Force for operational employment or a Permanent Joint Overseas Base (PJOB) for an operational Role. It may be conducted in combined or joint contexts and on a UK, Joint Expeditionary Force, NATO, EU or Coalition Partner framework basis. Tier 4 events prepare the Defence Crisis Management Organisation (DCMO) to manage crises and provide strategic direction for, and conduct of, operations at the Political-Military Strategic level. They may involve Other Government Department (OGD)/Non-Government Organisations, other International Organisations and/or NATO and the EU. |

| Collective Training Components | Constituent elements of the training. The 4 components are: Supportive information, Just-in-time information, Part-task practice, and Whole training Tasks. Using the Teamwork Error Analysis associated with each Task, consideration should be given to which components of Collective Training are most appropriate to train the Task. |

| Collective Training Objective (CTO) | Output of the specified team/unit activity. CTOs ensure that the training activity has a definite focus linked to a Defence need. They help ensure that the associated trainers, support staff and trainees, within a Team/Collective environment) have a clear understanding of what the trainees are required to learn, and to be able to do at the end of the learning event. |

| Collective Training Risk Management | The management of risk to capability by the TDA through Collective Training shows the TRA what has been trained and where shortfalls exist or risk is being taken in declaring a Team or capability ready for operations. Even where training is successful and readiness is certified, there is also a risk that readiness will be consumed over time and will need to be regenerated or sustained, typically through deployed training. |

| Collective Training Trainer Tasks | These ensure that the event-specific Knowledge, Skills and Attitudes (KSA) that trainers require to deliver training during widely variable CT events are captured and articulated. |

| Combined training | Two or more nations training together. |

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235 The Safeguarding Vulnerable Groups Act 2006 defines two groups of people within its scope: Children and Vulnerable Adults.
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.11</td>
<td>Commander’s Risk Assessment (CRA)</td>
<td>A document detailing the risks of training activity, and the risks to training staff and trainees. It must contain the health and safety assessment of the training activity specific to the Training Provider. JSP 822, Part 1, provides detail.</td>
</tr>
<tr>
<td></td>
<td>Competence/Competences</td>
<td>The measured ability of an individual to consistently perform a particular occupational skill or range of skills to a required standard, under prescribed conditions.</td>
</tr>
<tr>
<td></td>
<td>Competency/Competencies</td>
<td>The underlying characteristic(s) of an individual which results in effective and/or superior performance within a Role.</td>
</tr>
<tr>
<td></td>
<td>Competency Framework</td>
<td>A network of competencies. OJAR/SJAR is an example of an organisational level Competency Framework that is common to all Service personnel. Professional Competency Frameworks can also be used in order to provide Guidance to defined professional groups, such as the Royal Navy’s Command Competency Framework, where there is a need for longer term individual professional development and/or selection.</td>
</tr>
<tr>
<td></td>
<td>Competence Performance Statement</td>
<td>In the context of this JSP the Role/Team Performance Statement serves as the Competence Performance Statement to articulate Skill orientated requirements of a Role.</td>
</tr>
<tr>
<td></td>
<td>Competence Retention Analysis</td>
<td>Analysis of knowledge and skills to assess at what interval refresher training will need to take place.</td>
</tr>
<tr>
<td></td>
<td>Condition</td>
<td>The part of the Role/Team Performance Statement (Role/Team PS) or Training Objective (TO)/Collective Training Objective (CTO) that defines the environment in which the Performance has to be achieved. Only those aspects that affect Performance are included.</td>
</tr>
<tr>
<td></td>
<td>Constraint</td>
<td>A limitation or restriction. The state of being restricted or confined within prescribed bounds.</td>
</tr>
<tr>
<td>1.2.3</td>
<td>Constraints Analysis</td>
<td>Limitations or restrictions affecting the TNA need to be analysed and highlighted to ensure that risks regarding financial, safety and technical issues are addressed.</td>
</tr>
<tr>
<td>5.15</td>
<td>Continuous Improvement (CI)</td>
<td>Recurring assurance activities that contribute to identifying improvements in the effectiveness and efficiency of training and the Training System.</td>
</tr>
<tr>
<td>1.7.1</td>
<td>Cost Benefit Analysis (CBA)</td>
<td>In accordance with Defence and HM Treasury guidelines, an examination of the broad order costs of various options to recommend the most cost-effective training solution.</td>
</tr>
<tr>
<td></td>
<td>Competence Retention Analysis Technique (CRAT)</td>
<td>A technique used to analyse knowledge and skills to assess at what interval refresher training will need to take place.</td>
</tr>
<tr>
<td></td>
<td>Care of Trainee (COT) Training</td>
<td>COT training is delivered to staff working in Phase 1 and 2 training. Attendance is determined by the Commander’s Risk Assessment and the Supervisory Care Directive (SCD). COT training is embedded in DTTT Phase 1 and 2 training and is also available as a standalone module.</td>
</tr>
<tr>
<td></td>
<td>Commanding Officer of a Training Establishment (COTE)</td>
<td>An individual employed to command a Phase 1, 2 or 3 training establishment.</td>
</tr>
<tr>
<td>DSAT process Ref</td>
<td>Term</td>
<td>Definition</td>
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<tr>
<td></td>
<td><strong>Continuing Professional Development (CPD)</strong></td>
<td>The process by which an individual develops further following a training or education intervention. In the context of DTC, CPD ensures that Defence Trainers, DTSs, DTM and T4 remain current and competent in their subject specialisation and develop their knowledge and skills.</td>
</tr>
<tr>
<td>1.3.3B</td>
<td><strong>Critical Errors</strong></td>
<td>Linked to the description of Teamwork, an analysis of Critical Errors considers what can go wrong in conducting a Task and how errors should be managed. This then permits the training design process to incorporate these errors to ensure that Teams have experienced and been trained in coping with and responding to them. The criticality of errors should be expressed in terms of risk to the delivery of capability. This is approximately analogous to Difficulty, Importance and Frequency (DIF) Analysis.</td>
</tr>
<tr>
<td>5.19</td>
<td><strong>Customer Executive Board (CEB)</strong></td>
<td>A specified group which provides a mechanism for stakeholders to develop the scale and content of training to match the Defence requirement within the available budget, and in accordance with relevant Defence and SC policies.</td>
</tr>
<tr>
<td></td>
<td><strong>Defence Centre of Training Support (DCTS) Franchise</strong></td>
<td>An agreement whereby organisations are granted permission to provide DCTS DTC training under licence.</td>
</tr>
<tr>
<td>5.17</td>
<td><strong>Defence Joint Collective Training and Exercise Committee (DJCTEC)</strong></td>
<td>The 2* committee with the main responsibility to manage overall UK Training and Exercises in line with Defence Strategic Direction, confirming the policy and priorities for future exercises are included in the Defence Exercise Programme (DXP).</td>
</tr>
<tr>
<td></td>
<td><strong>Defence Learning Environment (DLE)</strong></td>
<td>Defence’s primary Virtual Learning Environment (VLE) which will become part of the Defence Learning Management Capability (DLMC).</td>
</tr>
<tr>
<td></td>
<td><strong>Defence Learning and Management Capability (DLMC)</strong></td>
<td>An IT-based computer software system that will replace TASFMIS-T and other TMIS in due course.</td>
</tr>
<tr>
<td>5.16</td>
<td><strong>Defence People and Training Board (DPTB)</strong></td>
<td>The 3* Defence level Board that is the highest level governance body for training issues. The DPTB manages training strategic performance and risks; and provides the governance and management of Defence Training &amp; Education, including controlling the limits of variation between the Services.</td>
</tr>
<tr>
<td></td>
<td><strong>Defence Systems Approach to Training (DSAT)</strong></td>
<td>DSAT is the process that must be used by those who are involved in the analysis, design, delivery, assurance, management and governance of training across Defence. DSAT is designed to generate a Training System that allows trainers to deliver appropriate, effective, efficient, accountable, safe and risk-focussed training to trainees.</td>
</tr>
<tr>
<td></td>
<td><strong>Defence Trainer</strong></td>
<td>An individual from the Whole Force delivering any Defence Phase 1, Phase 2 or Phase 3 training.</td>
</tr>
<tr>
<td></td>
<td><strong>Defence Trainer (Phase 1 or 2)</strong></td>
<td>An individual delivering formal Phase 1 or 2 training articulated in a Training Performance Statement (TPS) normally in a Phase 1 or 2 training establishment.</td>
</tr>
</tbody>
</table>

236 In the context of this JSP, the term ‘trainer’ encompasses all those engaged in delivering training across Defence, for both individual and collective training. 

237 In the context of this JSP, the term ‘trainee’ encompasses all those in the receipt of across Defence, for both individual and collective training, and encompasses such terms as ‘recruit’, ‘student’, ‘learner’, ‘exercising troops’ etc. These and other terms continue to be used in the wider Defence training community, particularly in Phase 1, Phase 2 and collective training.
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Defence Trainer (Phase 3)</td>
<td>An individual delivering formal technology training articulated in a TPS.</td>
</tr>
<tr>
<td>3.1</td>
<td>Defence Trainer Capability (DTC)</td>
<td>A policy that delivers Defence Trainers that are fit for purpose. Defence must ensure that its trainers inspire, motivate and challenge trainees in order to get the very best from them. To be fully effective, trainers fulfil the Roles of the specialist trainer and that of leader, including: understanding the key attributes of a trainer; effective delivery techniques; the realities of training; coaching; and the use of technology.</td>
</tr>
<tr>
<td></td>
<td>Defence Trainer Manager (DTM)</td>
<td>A principal advisor on the DTC Direction who also provides functional management of DTSs, Defence Trainers and is responsible for CI relating to the DTC. DTMs are not responsible for managing DWTs.</td>
</tr>
<tr>
<td></td>
<td>Defence Trainer Supervisor (DTS)</td>
<td>An individual experienced in training delivery who is responsible for the assessment and development of Defence Trainers.</td>
</tr>
<tr>
<td></td>
<td>Defence Workplace Trainer (DWT)</td>
<td>An individual delivering either formal WT as articulated in the WTS or other necessary WT that has not been derived through the formal DSAT process.</td>
</tr>
<tr>
<td>3</td>
<td>Delivery</td>
<td>Implementation and execution of the Training solution by the Training Provider.</td>
</tr>
<tr>
<td>3.2.4</td>
<td>Deployed Collective Trainer Training</td>
<td>The training required to ensure Collective Trainers can deliver the training required to trainees. Where a trainer’s ability to conduct a Task is likely to fade over time, they may need to train while deployed or to re-role as necessary to support structured agility.</td>
</tr>
<tr>
<td>2</td>
<td>Design</td>
<td>Creation and development of the training solution using the outputs from the Analysis.</td>
</tr>
<tr>
<td></td>
<td>Difficulty</td>
<td>In the context of a DIF analysis, difficulty is the amount of effort or skill needed to accomplish, deal with or understand a specified problem or activity.</td>
</tr>
<tr>
<td>1.3.3A</td>
<td>Difficulty, Importance and Frequency (DIF) Analysis</td>
<td>A method comparing Role information using a simple algorithm to determine the most complex, hard to learn/master activities. The frequency with which the task is undertaken and its importance will impact on how much training is required.</td>
</tr>
<tr>
<td></td>
<td>Distance Learning</td>
<td>An element of learning which takes place without the physical presence of a trainer. Learners are typically geographically separated from each other and the training provider, often choosing when and where learning material is accessed.</td>
</tr>
<tr>
<td></td>
<td>Distributed Training (DT)</td>
<td>DT is the structured learning where all, or parts, are undertaken away from the organisation responsible for the development, maintenance and management of the training. A trainer may or may not be needed; if needed, a trainer may be physically present (local or peripatetic) or remotely located. The learning material can be provided by any blend of suitable media.</td>
</tr>
<tr>
<td></td>
<td>Defence Training &amp; Education Capability (DTEC)</td>
<td>The template (and associated rule set) to ensure that Defence trains as it expects to fight and develops its people as its strategic edge underpinned by: Clearly identified training and education Requirements; Conformance to agreed Standards; Commonality &amp; re-use of data, models and platforms; Consistent, enduring, accessible, agile and adaptable solutions; and Value for Money (VfM) at Enterprise level.</td>
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<tr>
<td>DSAT process Ref</td>
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<tr>
<td></td>
<td>Education</td>
<td>The development of intellectual capacity, the acquisition of general supporting Knowledge and inculcation of Attitudes, which underpin performance, and engender understanding, commitment and ethos.</td>
</tr>
<tr>
<td></td>
<td>E-Learning</td>
<td>Electronically delivered and accessed content and or communications used for the purpose of learning. E-Learning may stand alone or be integrated into a Blended Learning solution. Defence recognises 4 levels of E-Learning: IMI Levels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Passive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Limited interaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Complex interaction/moderate</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Real time/simulation</td>
</tr>
<tr>
<td>2.3</td>
<td>Enabling Objective (EO)</td>
<td>A lower level (to Training Objective) statement in Behavioural terms (Performance, Conditions and Standards) that describes the Knowledge, Skills and Attitudes (KSA) necessary for the trainee to achieve all or part of a Training Objective (TO)/Collective Training Objective (CTO).</td>
</tr>
<tr>
<td>1.6B</td>
<td>Environment Analysis (EA)</td>
<td>Conducted as part of the Team/Collective Task Analysis (TCTA), EA identifies the training environments that could be used in Collective Training. The EA includes the Fidelity Analysis, Training Environment Options Identification and Specification, and Methods &amp; Media Options (derived from the Training Environment Rationalisation).</td>
</tr>
<tr>
<td></td>
<td>Evaluation (Individual Training)</td>
<td>The process of making a judgement as to the worth of training to Defence. It allows Defence to monitor the impact of training and assess what has been achieved, whether it was effective, efficient (i.e. represents VfM) and how it contributed to the achievement of Defence outputs.</td>
</tr>
<tr>
<td></td>
<td>Evaluation (Collective Training)</td>
<td>An assessment by the TDA – typically through exercising – that force generation has been completed to the required Standards and a judgement of the value of the collective training via an assessment of any associated risks owing to shortfalls. This results in a report of readiness based on risk management.</td>
</tr>
<tr>
<td>4.1</td>
<td>Evaluation Strategy</td>
<td>A document that details what training will be evaluated and how. It should cover the whole cycle of training, starting when a training need is first identified and continuing until the required Defence outputs are achieved.</td>
</tr>
<tr>
<td>4.1.2</td>
<td>External Validation (ExVal)</td>
<td>The use of both qualitative and quantitative data to determine the degree to which training prepares individuals/teams for the specified Role and whether the Role remains valid.</td>
</tr>
<tr>
<td></td>
<td>Fidelity</td>
<td>The degree to which a simulation (training) matches the real (workplace) system and/or environment in terms of physical, functional, environmental and tactical/cultural characteristics. It can also be measured by system, resources, human and manned system requirements.</td>
</tr>
<tr>
<td>1.6.1A</td>
<td>Fidelity Analysis</td>
<td>This analysis should be conducted as a result of the production of a Role Performance Statement (Role PS) derived from the Role Analysis (RA), and include any existing training Performance Standards. It considers each relevant Performance objective in the Role PS to assess the extent to which the training environment should replicate the workplace (real) environment to enable training to be effective. Decisions made at this stage can have a significant impact on the nature and cost of training solutions, as Fidelity can be a significant cost driver (high fidelity = high cost).</td>
</tr>
<tr>
<td></td>
<td>Formal Training</td>
<td>Training activity, no matter where or how it is delivered, derived as a result of the application of the Defence Systems Approach to Training (DSAT) process and articulated in a Formal Training Statement (FTS). Formal training will, throughout</td>
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<tr>
<td>DSAT process Ref</td>
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<td>its life, continue to be subject to the rigours of DSAT and any associated MTS. The FTS is the document that articulates the totality of the formal training and drives the formal contract between the TRA/TDA and Training Provider which is articulated in the TrAD.</td>
</tr>
<tr>
<td>2.2</td>
<td>Formal Training Statement (FTS)</td>
<td>A FTS details the totality of the training that must be achieved to meet the requirements articulated in the Role/Team PS. The FTS comprises a Training Performance Statement (TPS), a Workplace Training Statement (WTS), and a Residual Training Gap Statement (RTGS). The TPS details the TOs/CTOs that are managed and/or delivered by the TDA. The WTS details the TOs/CTOs that are managed and/or delivered by the employing unit. The RTGS contains elements of the Role/Team PS that have not been allocated to any training activity (the gap).</td>
</tr>
<tr>
<td></td>
<td>Formative Assessment</td>
<td>Also known as progress tests, these are administered at intervals during a training activity to gain data for feedback to trainees (and trainers on trainee progress). They provide the basis for action to be taken by both parties to ensure trainee success. The outcome of the assessment is to determine how much progress the individual or Team has made thus far.</td>
</tr>
<tr>
<td></td>
<td>Franchised Training</td>
<td>Training that has been devolved to a Training Provider from a central Training Provider (establishment or college). Franchisees deliver Phase 2 or 3 training defined in the TPS and are managed and governed by the central Training Provider/TDA.</td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
<td>The property or Condition of occurring at frequent intervals. The rate at which something occurs over a particular period of time or in a given sample.</td>
</tr>
<tr>
<td></td>
<td>Functional Skills</td>
<td>Practical skills in English, mathematics and ICT that enable learners to deal with practical problems and challenges. They allow individuals to work confidently, effectively and independently in everyday life. Note: The Armed Forces do not currently include ICT as a FS required by all SP.</td>
</tr>
<tr>
<td></td>
<td>Gains to Trained Strength (GTS)</td>
<td>The number of individuals who successfully complete Phase 2 training (but will include other categories such as trained re-entrants) in a particular time frame</td>
</tr>
<tr>
<td></td>
<td>Governance (training)</td>
<td>The process through which decisions are made that determine the long-term strategy, direction and organisation of individual and collective training across Defence. Training Governance provides the framework through which training stakeholders are accountable for continuously improving the quality of their provision to meet Defence requirements. Governance of Defence training is managed primarily through boards such as CEBs, Working Groups and Steering Groups.</td>
</tr>
<tr>
<td></td>
<td>Higher Education (HE) Trainer</td>
<td>An individual employed for their breadth and depth of specialist knowledge and to focus learning on higher knowledge and critical thinking.</td>
</tr>
<tr>
<td></td>
<td>Head of Profession (HoP)</td>
<td>MOD staff who provide a functional, strategic overview of business critical issues to inform top level discussion with Corporate HR Process Owners and in particular the Hd HRD as Process Owner for Civilian Workforce.</td>
</tr>
<tr>
<td><strong>DSAT process Ref</strong></td>
<td><strong>Term</strong></td>
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<tr>
<td>1.3.2B</td>
<td>Hierarchical Task Analysis (HTA)</td>
<td>The HTA is the process by which the Team or Collective tasks are analysed in the event that a Mission Task List is not available.</td>
</tr>
<tr>
<td></td>
<td>Importance</td>
<td>The state or fact of being of great significance or value. The quality or condition of being important; significance.</td>
</tr>
<tr>
<td></td>
<td>Individual Training</td>
<td>Training designed to develop a mix of Knowledge, Skills and Attitudes (KSA) of individuals. It takes place in any environment, conforms to a DSAT generated Training System, has suitable training governance processes in place, and can utilise a variety of Methods &amp; Media.</td>
</tr>
<tr>
<td></td>
<td>Initial Training</td>
<td>Training delivered at Phase 1 and Phase 2.</td>
</tr>
<tr>
<td></td>
<td>Inspection</td>
<td>Careful examination or scrutiny. The act of inspecting or viewing, especially carefully or critically. Formal or official viewing or examination. To examine closely, especially for faults or errors. To scrutinize officially (a document, military personnel on ceremonial parade etc). In the context of DSAT, an Inspection can be carried out by 1&lt;sup&gt;st&lt;/sup&gt;, 2&lt;sup&gt;nd&lt;/sup&gt; and 3&lt;sup&gt;rd&lt;/sup&gt; parties.</td>
</tr>
<tr>
<td>4.1.1</td>
<td>Internal Validation (InVal)</td>
<td>Process to determine whether TOs/CTOs are being met.</td>
</tr>
<tr>
<td>5.16</td>
<td>Joint Commitments Strategic Steering Group (JCSSG)</td>
<td>The JCTWG is responsible to the DJCTEC for the compilation of the Defence Exercise Programme (DXP).</td>
</tr>
<tr>
<td>5.18</td>
<td>Joint Collective Training Working Group (JCTWG)</td>
<td>The JCTWG is responsible to the DJCTEC for the compilation of the Defence Exercise Programme (DXP).</td>
</tr>
<tr>
<td>2.3</td>
<td>Key Learning Points (KLPs)</td>
<td>Important points contained within the development of the LSpec. They can also be referred to as called Teaching Points.</td>
</tr>
<tr>
<td>3.3.1</td>
<td>JPA Competences</td>
<td>The part of JPA, the Defence information management system, that captures and records competence information for career and manning purposes. Where new competences, resulting from a new or changed training activity, need to be added to JPA, reference should be made to JSP 794. Processes should be put in place to ensure the accurate and timely capture of new competences and qualifications resulting from the training activity.</td>
</tr>
<tr>
<td>1.3.4A</td>
<td>Knowledge, Skills, Attitudes (KSA) Analysis</td>
<td>A KSA Analysis is a systematic analysis of ‘Performance’ and/or ‘Standards’ in order to identify the necessary KSA required to perform a Role&lt;sup&gt;238&lt;/sup&gt;. A KSA Analysis moves on from what the Role holder does (captured in the Role Scalar, 1.3.2A), to...</td>
</tr>
</tbody>
</table>

<sup>238</sup> Users may also wish to seek additional guidance regarding KSA from the Competence Retention Analysis Technique (CRAT) User Guide. Part 2, Chapter 5, Section 5.1, provides further information.
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
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</thead>
<tbody>
<tr>
<td></td>
<td><strong>Learning</strong></td>
<td>A change in Behaviour as a result of the acquisition of Knowledge, Skills and/or Attitudes (KSA). As a result, therefore, of learning, a change in human Attitude or capability may occur. It is also often defined as the process of making training available at a time, place and pace to suit the needs of the individual.</td>
</tr>
<tr>
<td></td>
<td><strong>Learning Scalar</strong></td>
<td>Representation of Training Objectives (TOs)/Collective Training Objectives (CTOs) and their dependent Enabling Objectives (EOs) and Key Learning Points (KLPs) in the order to be taught. It helps to ensure that TOs/CTOs are taught in the optimal order, sequence the training activity, and develop the Learning Specification (LSpec).</td>
</tr>
<tr>
<td></td>
<td><strong>Learning Technology</strong></td>
<td>Technology (including hardware, software, supporting architecture and communication networks) used to support and/or enable, the analysis, design, delivery, assurance and management of learning.</td>
</tr>
<tr>
<td>1.6.2A</td>
<td><strong>Lesson/Event Planning</strong></td>
<td>Planning is an essential part of the training delivery process. A good lesson or CT event plan considers all the needs and expectations of the training audience, prepares for any ‘what ifs’ and enables the trainer to feel confident that nothing has been left to chance. Lesson/Event plans should be derived from the relevant LSpecs.</td>
</tr>
<tr>
<td></td>
<td><strong>Location/Environment Implications</strong></td>
<td>The training environment and implications of location for each training solution require analysis during the Training Options Analysis (TOA). It is based on a careful analysis of exactly what the Customer requires, tempered by that which is deliverable and can only be achieved by consultation with the Customer and the Training Provider, who will have Knowledge of existing training and current training facilities and resources. This will later result in the allocation of Training Objectives (TOs) to a Training Performance Statement (TPS), Workplace Training Statement (WTS), or, where no training will take place, the Performance, Conditions, Standards to a Residual Training Gap Statement (RTGS). The output from this work is amendments to training Categories or recommendations that take account of both DIF Analysis results and the effects of all other Role, training and resource factors.</td>
</tr>
<tr>
<td></td>
<td><strong>Management of Training</strong></td>
<td>Embodies the functions that ensure the provision of effective and efficient training and education which contributes to Defence effect. These functions are: stakeholder inter-relationships and responsibilities; defining the quantitative and qualitative requirements (both the numbers that require the training and/or education in a given period, and the Performance and Standards to be achieved); resourcing of training and education in the Training Providers; determining priorities in order to direct resources; training support; training assurance.</td>
</tr>
</tbody>
</table>
| 3.5              | **Management of Training Deficiency**     | Managing training deficiencies shows the stakeholders where training shortfalls exist or where deficiencies have arisen owing to either an inability to train certain TOs/CTOs or a training failure that has been picked up through the assurance process. Such deficiencies would suggest that trainees may not hold the competences that the training was designed to
A Training Deficiency is not the same as the Residual Training Gap. The Residual Training Gap is agreed by the TRA early on in the DSAT process and is articulated in the Residual Training Gap Statement. These are essentially, unplanned, but unavoidable training gaps, which should therefore be captured and the appropriate governance body informed so that a decision can be made to treat, tolerate or transfer the training deficiency.

The governance, management and assurance (Element 4) of training are collectively known as a MTS. A MTS is an iterative mechanism to ensure that the training being delivered remains meaningful and continues to contribute to delivering Defence effect. When delivered correctly, the outputs of the DSAT process, combined with the MTS, deliver a Training System that meets the required Quality Management Standard.

There is no single definition of Mentoring in Defence as the word has different meanings depending on the context. For example, there are Defence workplace mentoring schemes where a trusted colleague shares knowledge and experience over a period of time to assist a new colleague. Additionally, there are mentoring schemes to assist foreign forces to manage their own security. Each has different aims. Where mentoring is mentioned in the JSP, it is referring primarily to the Role of the Defence Training Supervisor (DTS) acts as a mentor for Trainers. In the DTS context the definition of Mentoring is: 'where a trusted colleague shares knowledge and experience over a period of time to assist a new colleague'.

In training; the strategy used for imparting Skills, Knowledge and Attitudes (KSA); e.g. lectures, demonstrations, role-play, lessons/events, exercises, participation activities, walk through/talk through etc.

The selection of the most cost-effective way to meet a training requirement. It involves identifying a range of possible training solutions, in terms of the Methods & Media options that can be used. The choice of options will be dependent upon the requirement, training policy, training throughput and established good practice.

Training based on the concept of building up Skills, Knowledge and Attitudes (KSA) in self-contained elements as needed by the trainee. Each module is based on a Skill or group of Skills which analysis shows to be an element of the Role.

A section of a training activity, which is so designed that it can run as a self-contained element and does not depend on the development of other parts in parallel but only on entry requirements having been reached by the trainee.

An Open Source Virtual Learning Environment (VLE). Tutors can create their own courses and add resources such as training documentation, graphics, videos, forums, wikis, quizzes and SCORM files. Moodle stands for: Modular Object Orientated Dynamic Learning Environment.

In relation to DSAT assurance activity, a non-conformity is a failure to comply with requirements. A requirement is a need, expectation or obligation that is mandated.

Typically 0800 to 1800 hours during which time recruits/trainees are undergoing formal periods of instruction (Class Contact Time), organised sporting or other activities. This period would include the time for lunch and any other short breaks.
between instructional periods. For the majority of this time recruits/trainees will usually be under the control and supervision of trainers.

**Norm Reference Testing**
Designed to determine an individual’s or team’s achievement with respect to the group, Force Element (FE) or class to which they belong.

**Observation**
In relation to DSAT assurance activity, an observation is something that the assurer feels is worthy of note which, in the spirit of CI, should addressed (in the case of a practice which is not deemed a non-conformity but it would still be beneficial to address it) or shared (in the case of good practice).

**Options Evaluation**
This activity evaluates the merits of the training options so that a baseline option can be chosen. Options can be assessed via several criteria: The extent to which the option meets the requirements; through-life cost; implementation time; trainer load, or any consideration of the availability of trainers to support training; an assessment of the risk; and flexibility.

**Options Evaluation Table**
A table the Options Evaluation criteria as columns, with the baseline options and then other training options as rows, with each criteria colour coded to show, in broad order, the strengths and weaknesses of each training option against the other, so that, by comparison, the better option can be selected.

**Out-of-hours (off duty)**
The time spent outside Normal Working or Silent Hours; typically:

- **Monday to Friday:**
  - 0630-0800 - the time between Reveille/Call the Hands and First Parade/Turn to.
  - 1800-2300 - the time after periods of formal training and Silent Hours/Lights Out.

- **Saturday and Sunday:**
  - 0630-2300 - in the event of no formal training taking place.

**Out-of-hours (silent hours)**
The time when recruits/trainees are expected to be asleep; typically 2300-0630 hours.

**Overall Pass Rate**
A measurement calculated as follows, for 1 Training Year (TY): Overall pass rate = TP / (TP + TNP), where: TP (Total Passes) = Total number of successful completions, with or without back-classing in 1 year. TNP (Total Non Passes) = Number of Trainees who have permanently ceased attendance on the training activity in the TY under consideration, and who have not passed (includes those who failed the training activity, those who voluntarily withdrew and those who were removed permanently for disciplinary, medical or other reasons).

**Overlay Analysis (OA)**
The Training Overlay in the Team/collective Task Analysis (TCTA) is the totality of the training design, infrastructure and other support functions necessary to deliver collective training, which will then be delivered through Element 2 (Design). Unless the TCTA suggests otherwise, it should be based on the conception of collective training and assurance and should clarify the anticipated training throughput for each element, including initial surge, steady state and refresher training requirements, to then define the capacity requirements of the necessary Training System.
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td></td>
<td>Present, Apply, Review (PAR) Training</td>
<td>An online refresher training package for Defence Trainers who need to be upskilled in order to deliver training using PAR methodology. PAR training is embedded in DTTT Phase 1 and 2 and DTTT Phase 3.</td>
</tr>
<tr>
<td></td>
<td>Performance</td>
<td>That part of a Role/Team Performance Statement (Role/Team PS), or Training Objective (TO/Collective Training Objective (CTO), which defines what the trainee or trained person has to do.</td>
</tr>
<tr>
<td></td>
<td>Personal Development</td>
<td>The enhancement of personal and/or professional attributes arising from a combination of training, education and experience.</td>
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<tr>
<td></td>
<td>Phase 1 Training</td>
<td>All new individual entry training delivered to Phase 1 recruits to provide basic military skills.</td>
</tr>
<tr>
<td></td>
<td>Phase 2 Training</td>
<td>Initial individual specialisation, sub-specialisation and technical training following Phase 1 training, delivered to Phase 2 trainees, prior to joining the Trained Strength. Note that personnel working or delivering training at a unit where a Phase 1 or 2 training establishment exists but who have no connection to Phase 1 or 2 training delivery or trainees, do not have to complete DTTT Phase 1 and 2 or the standalone COT.</td>
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<tr>
<td></td>
<td>Phase 3 Training</td>
<td>Individual training undertaken at any stage in a Service person's career after Phase 2.</td>
</tr>
<tr>
<td>3.4</td>
<td>Piloting of Training Activity</td>
<td>The first delivery of a newly designed training activity under ‘realistic’ Conditions. The purpose is not only to prove what works, but also to highlight problem areas so they can be revised as necessary.</td>
</tr>
<tr>
<td>5.4</td>
<td>Pipeline Management</td>
<td>At Phases 1 and 2, pipeline management ensures that sufficient personnel of the correct branches and/or trades enter training, and subsequently single Services, as Gains to Trained Strength (GTS) in order to meet the manpower requirement of each Service, as outlined in their Service Manpower Plans. At Phase 3, pipeline management ensures that the correct numbers of personnel enter training to sustain the requirements of each branch and/or trade.</td>
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<td></td>
<td>Pre-employment Training</td>
<td>The Phase 3 training necessary to prepare individuals for a particular Role/appointment/employment.</td>
</tr>
<tr>
<td>1.3.2A</td>
<td>Production of Role Scalar</td>
<td>The examination of the Duties, Tasks, Sub-Tasks and Task-Elements (Performance) that have to be performed in the Defence environment will result in the Production of a Role Scalar.</td>
</tr>
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<td></td>
<td>Progress Test</td>
<td>Tests administered at intervals during training to check the progress of the trainees towards the attainment of the Training Objectives (TOs). These tests are diagnostic and determine the acquisition of the necessary Knowledge and Skills embodied in the Enabling Objectives (EOs).</td>
</tr>
<tr>
<td></td>
<td>Quality</td>
<td>The totality of features and characteristics of a service or product that makes it fit for purpose and conforming to requirements.</td>
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<tr>
<td></td>
<td>Quality Assurance</td>
<td>The application of checks and audits to ensure quality procedures are being carried out. QA focuses on preventing faults occurring through ensuring that the task, whether Role or training related, is performed correctly in the first instance. All individuals in the organisation who are involved in the process are responsible for aspects of QA.</td>
</tr>
<tr>
<td></td>
<td>(DSAT) Quality Management Standard (QMS)</td>
<td>The standard that is met when the outputs of the DSAT Elements and the MTS activities are delivered correctly.</td>
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<tr>
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<td></td>
<td>Ready for Training Date (RFTD)</td>
<td>The date at which the Training System, produced by the DSAT process, is ready to receive trainees and begin training, delivered by the Training Provider. The RFTD is initially stated early, in the Training Support Plan (TSP), to allow planning, and reconfirmed in the Training Authorisation Document (TrAD). It is the responsibility of the TRA, not the Training Provider, to state the RFTD.</td>
</tr>
<tr>
<td></td>
<td>Remedial Training</td>
<td>Trainees that fail assessments or otherwise do not meet the required Standard of Performance within the prescribed Conditions should be given all available and practical opportunities to be provided with additional, or remedial, training in order to both give the trainee the best possible opportunity to pass the training activity, and ensure the costs and resources expended on training are not wasted. Re-testing should only be conducted once the trainee has received remedial training to fill the Knowledge, Skill or Attitude gap. Re-testing without remedial training will likely be a waste of resource.</td>
</tr>
<tr>
<td>3.2.3</td>
<td>Remedial Training Strategy</td>
<td>A document directing policy for remedial training support to those learners who fail to reach the required standards. It must be appropriately programmed and resourced, to ensure that trainees are given every opportunity to achieve the Standard required of the training activity and at each key stage of that activity. A remedial training strategy should be integrated into the training from the earliest point, to assist trainees and identify weaknesses both in the trainee and the training that can then be corrected in a timely manner.</td>
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<td></td>
<td>Residential Training</td>
<td>Training that occurs in an establishment away from the workplace. Residential training TOs would be articulated in the TPS.</td>
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<td></td>
<td>Residual Training Gap</td>
<td>Safety, legislation and/or resource constraints may prevent training taking place to achieve the Performance, Conditions and Standards detailed in the Role/Team PS. The difference between the Role/Team PS and the training received is known as the Residual Training Gap.</td>
</tr>
<tr>
<td>2.2.3</td>
<td>Residual Training Gap Statement (RTGS)</td>
<td>The difference between the totality of the training received and the Role/Team PS. It is where an element of the Role/Team Performance Statement (Role/Team PS) has not been allocated a training activity. The Residual Training Gap is expressed in terms of Performance, Conditions, Standards. The RTGS also states the reasons and consequences of any identified RTG, and management of any associated risks.</td>
</tr>
<tr>
<td></td>
<td>Risk</td>
<td>A situation involving exposure to danger. The possibility of suffering harm or loss; danger. A factor, thing, element, or course involving uncertain danger; a hazard.</td>
</tr>
<tr>
<td>5.3 / 5.7</td>
<td>Risk/Assumption Management</td>
<td>The process to manage Risks and Assumptions. Risk/Assumption management must start at the beginning of the DSAT process. Risks/Assumptions are to be held on a risk/assumption register at all levels (e.g. training establishment, Service Command or Service Command’s subordinate training HQ) and are to be managed in accordance with Defence risk management policies. Risks/Assumptions must be reviewed regularly during all Elements of the DSAT process and updated with any new and emerging risks.</td>
</tr>
<tr>
<td>1.2.4</td>
<td>Risk Register</td>
<td>A repository of risks. An assessment should made of any risks, technical, financial, contractual and other, perceived in the design and delivery of the training. Where risks are identified, a plan for mitigation should be enacted and resources allocated, where necessary. It may be the risks need to be transferred to the appropriate governance body for authority to treat through mitigation, or tolerate (if mitigation is not feasible), or transfer if the risk needs to be elevated to a higher level. Risks should then be fed back into the DSAT process, in order to ensure that activities are either repeated or conducted bearing the risks in mind.</td>
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<tr>
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<tr>
<td></td>
<td>Robust Training</td>
<td>Contextualised training that, by design, progressively develops individuals’ mental and physical resilience in preparation for their front-line role and prepares them appropriately for operations, when combined with Mission Specific Training.</td>
</tr>
<tr>
<td></td>
<td>Role</td>
<td>A Role is made up of Duties, Tasks, sub-Tasks and Task elements. A Role may be part of a job or one of several Roles that make up a single job which are unrelated to each other. For example, a Ship's Steward (whose job is Steward) is also a firefighter and First Aider when required. Firefighting and being a First Aider are Roles that form part of the job (but are unrelated to it, and cannot therefore be analysed as part of the job) and are made up of subordinate Duties, Tasks etc.</td>
</tr>
<tr>
<td>1.3A</td>
<td>Role Analysis (RA)</td>
<td>The process of identifying and ascertaining the Role requirements for the analysis and subsequent design of training. It provides raw data about a Role from a wide-ranging examination of the Roles, Duties, Tasks, sub-Tasks and Task elements. The output from the Role Analysis is the Role Performance Statement (Role PS).</td>
</tr>
<tr>
<td></td>
<td>Role Scalar</td>
<td>The Role Scalar is a description of all the tasks that are carried out in a Role. The Role Scalar is numbered hierarchically and split into Duties, Tasks, Sub-tasks and Task-elements. The Role Scalar only describes Performance, not Conditions and Standards.</td>
</tr>
<tr>
<td>1.3.5A</td>
<td>Role Performance Statement (Role PS)</td>
<td>In individual training, the Role PS is derived from the Role Analysis. It is a detailed statement of the Tasks/sub-Tasks required to be undertaken by an individual to achieve the desired Performance in the Role. It articulates the Performance, Conditions and Standards expected within the Role.</td>
</tr>
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<td></td>
<td>Scoping Exercise</td>
<td>The initial Stage of the DSAT process (Element 1, Analysis (Training Needs Analysis)) is a Scoping Exercise, which may identify that the most cost-effective means of achieving the required Defence effect is something other than a training intervention. It involves an initial analysis of the Requirement and, where applicable, suggests the possible options for meeting the requirement and a broad order estimate of the resource implications associated with each training solution, or other option. The Scoping Exercise may also find that training is not required.</td>
</tr>
<tr>
<td>1.2</td>
<td>Scoping Exercise Report</td>
<td>A report detailing the output of the Scoping Exercise. It should include what is appropriate to the training need and, importantly, make training solution recommendations.</td>
</tr>
<tr>
<td>2.5</td>
<td>Selection of Methods &amp; Media</td>
<td>During Element 1 Methods &amp; Media options are considered. These options are further refined as part of the Design process to consider: Methods (these are the strategies or techniques used to impart the required Knowledge, Skills and Attitudes (KSA)); and Media (these are the tools and means used to apply the Methods selected). The selection of Methods &amp; Media should consider the requirements identified by the KSA Analysis, the Teamwork Description and the Training Audience (and Throughput) Description. It should also consider additional factors, such as, characteristics of trainers, cost-effectiveness, training efficiency, and availability of learning resources and identified constraints. For individual training, training categories, which form part of the Role PS, will also inform the process of selecting Methods &amp; Media.</td>
</tr>
<tr>
<td></td>
<td>Self Study</td>
<td>Prescribed reading, project work, case study, set assignments or correspondence courses. Can be completed online including e-learning, Social Networking and participating in a VLE.</td>
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<tr>
<td></td>
<td>Self-Assessment</td>
<td>The methodologies to review the processes, learning environment and management systems a Training Provider utilises to meet the requirements of all its stakeholders.</td>
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<td></td>
<td>Service Commands (SCs)</td>
<td>The 3 single Services and Joint Forces Command.</td>
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<td>DSAT process Ref</td>
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<td></td>
<td>Simulation</td>
<td>Imitation of a real world system or process, exercising models over time. It includes modelling (a representation of an entity, phenomenon, system or process) and simulation activities that are either computer based or computer supported, including synthetics and synthetic environments (a computer-based representation of the real world, within which any combination of 'players' may interact).</td>
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<tr>
<td></td>
<td>Simulator</td>
<td>A device that imitates the dynamic Behaviour of a real system. A simulator used in training gives the illusion to the trainee of responding like the real system in order to promote the acquisition and practice of Knowledge, Skills and Attitudes (KSA).</td>
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<tr>
<td></td>
<td>Skill</td>
<td>A mental or physical activity according to the context or predominant aspect of the Skill pattern. It is built up gradually by repeated training or practice.</td>
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<td></td>
<td>Stakeholder</td>
<td>A person, group or organisation that has interest or concern in the DSAT process, training solution and Training System, including the management thereof. The TRA, TDA and Training Provider are examples of 3 key stakeholders.</td>
</tr>
<tr>
<td></td>
<td>Standard</td>
<td>That part of a Role/Team Performance Statement (Role/Team PS) or Training Objective (TO)/Collective Training Objective (CTO) which specifies the criterion of successful achievement.</td>
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<tr>
<td>5.1</td>
<td>Statement of Requirement (SOR)</td>
<td>An SOR is a document which states that there is a (real or perceived) need for personnel to have specific Knowledge, Skills and Attitudes due to a new or changed requirement. An SOR may necessitate a change to an existing training activity, or require a completely new training activity to be designed, both of which require the use of the DSAT process. It may also result in no change to any training. Criteria that will affect the SOR include: changing Defence priorities; new equipment coming into service; results of external assurance; manpower changes; Skills gaps, or pinch points trades; and changing legislation or government policy.</td>
</tr>
<tr>
<td>5.5</td>
<td>Statement of Trained Requirement (SOTR)</td>
<td>Identifies the trained output required by the employing TLB, by year, for a period of 4 Training Years. It is produced by the employing TLBs SOTR Co-ordination Organisation, who own and develop it in conjunction with the TRAs, the relevant TDAs’ finance and plans staff and the sS manpower planners. It may also require input from recruiting/manning staff and DE&amp;S if appropriate.</td>
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<tr>
<td>1.4.1A</td>
<td>Statement of Training Gaps</td>
<td>Statements in terms of the Performance delta between the requirements of the Role PS and any existing Training Objectives (TOs) and Enabling Objectives (EOs), including associated specialist qualifications, for each affected Role holder. These Gaps represent the impact on the training requirement for the continuation of existing training using existing resources.</td>
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<td></td>
<td>Statement of Training Task (SOTT)</td>
<td>A document generated by the TDA\textsuperscript{239} by taking the agreed output-based requirement articulated in the SOTR and developing it into a deliverable training plan for the following TY.</td>
</tr>
<tr>
<td>5.20</td>
<td>Steering Groups</td>
<td>Formed to support the governance process and assist with developing the DSAT process using the authority vested in the Customer Executive Board (CEB) whom they report their findings to. An example would be the Training Needs Analysis Steering Group (TNASG) that stands up once the SOR is received, in order to manage the TNA process.</td>
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<td></td>
<td>Sub-Task</td>
<td>A component part of a Task within a Role Scalar.</td>
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\textsuperscript{239} In conjunction with the Training Provider.
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<tr>
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<tbody>
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<td></td>
<td>Summative Assessment</td>
<td>Tests used to determine whether trainees have achieved the Training Objectives (TOs)/Collective Training Objectives (CTOs), or significant Enabling Objectives (EOs), which are deemed prerequisite to further training. They provide the required data to assign pass/fail grades and are conducted at the end of training or at the end of each stage/module of training. The outcome of the assessment is to determine whether the individual or Team is competent to carry out the Role or Task without supervision.</td>
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<td></td>
<td>Supervisory Care</td>
<td>The expression used to define the moral component of the MOD’s care and welfare. It involves the conscious overseeing of recruits/trainees by an authorised person to ensure the delivery of an appropriate military, pastoral and welfare regime. Supervisory care goes beyond the delivery of military, technical or specialist training and/or education carried out during the normal working day. It includes aspects such as the inculcation of professional military ethos, the maintenance of values and standards, ensuring appropriate behaviour, providing assistance or advice on welfare and administration, and the mentoring of recruits/trainees by military or suitable civilian staff.</td>
</tr>
<tr>
<td>5.14</td>
<td>Supervisory Care Directive (SCD)</td>
<td>Trainee and trainer management ensures that the Care and Welfare of all personnel that live and work within the training establishment is properly considered and captured in the Commander’s Supervisory Care Directive (SCD), which primarily sets out the trainee Care and Welfare activities.</td>
</tr>
<tr>
<td></td>
<td>Supervisor</td>
<td>A member of staff specifically authorised and responsible for the supervisory care of recruits/trainees. COs may nominate and authorise supervisors from all permanent staff (both military and civilian) on the strength of the establishment, as deemed suitable. This would normally exclude Military Provost Guard Service/MOD Guard Service staff and MOD Police unless specifically required. Military duty staff on the establishment during out-of-hours periods may be expected to carry out supervisory care responsibilities, subject to compliance with the Working Time Regulations, where applicable.</td>
</tr>
<tr>
<td></td>
<td>Synthetic Environment</td>
<td>A computer based representation of the real world, usually a current or future battlespace, within which any combination of ‘players’ may interact. The ‘players’ may be computer models, simulations, people or instrumented real equipment (such as man-worn Tactical Effects System (TES)).</td>
</tr>
<tr>
<td></td>
<td>Synthetic Trainer</td>
<td>A device which provides a simulation for the purposes of training. The representations of the real world offered by such devices range from simple to sophisticated simulators offering high fidelity simulations of the real operational equipment or environment.</td>
</tr>
<tr>
<td>5.17</td>
<td>Training Policy Group</td>
<td>A 2* Defence level Group that champions Training, Education, Skills, Recruiting and Resettlement (TESRRR) activities, engage with stakeholders and representatives from across the Defence TESRRR spectrum, and capture cross-Command TESRRR matters that require the attention of the 3* Defence People and Training Board (DPTB).</td>
</tr>
<tr>
<td></td>
<td>Task</td>
<td>A specific action recognised by having a definite beginning and an end. Performed for a relatively short period of time (could be hours but rarely days). Observable and measurable. A major component of a Role, or Team activity. A part of Role or Team activity that can be produced, compiled, achieved and/or accomplished by itself.</td>
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</tbody>
</table>

240 For example when recruits/trainees are detailed for Guard Duty/Fire Piquet under the supervision of MPGS, MGS or MOD Police, but noting the requirements of the extant Direction on Armed Guarding of Phase 1 and 2 Establishments.
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<td></td>
<td>Task Description Table</td>
<td>An important aspect of the Team/Collective Task analysis (TCTA) is the sequencing of Tasks, which is difficult to represent. A Task Description Table captures this detail and should be used to describe each Team Task, which will then provide a statement of the required Performance against each Mission Task. Although the completion of tables for each Task element of Hierarchical Task Analysis (HTA) will prove time consuming, it provides sufficient detail for subsequent training design, including how the Task can be split across the four components of Collective Training. It should also be noted that the completion helps with appreciating the training ‘gap’. Task Description Tables are used to articulate the Team Performance Statement (Team PS).</td>
</tr>
<tr>
<td>1.3B</td>
<td>Team/Collective Task Analysis (TCTA)</td>
<td>The Team/Collective Joint and Mission Tasks and sub-Tasks performed by the Team constitute ‘the Task’. The TCTA is the process of examining specific Tasks detail, in order to identify all the component sub-Tasks, the Conditions under which the Tasks are performed, and the Standards to be achieved when performing each Task. The ‘Role in the Task’ should also be considered. In this way, it will be possible to identify the teamwork requirements for effective Performance. To derive Team Performance Statements (Team PS) for Team/Collective capabilities, the Task Analysis should comprise: Higher-level context; External context; and Internal context.</td>
</tr>
<tr>
<td>1.3.5B</td>
<td>Team Performance Statement (Team PS)</td>
<td>In Collective Training, the Team PS is derived from the Team/Collective Task Analysis (TCTA) and the Teamwork Descriptions that are generated from this process. The Team PS can be derived from a Task Description Table that describes each Task and sequences them to provide a statement of the required Performance against each Mission Task.</td>
</tr>
<tr>
<td>1.3.4B</td>
<td>Teamwork Description</td>
<td>Linked to Critical Errors, the Teamwork Description captures ‘what good Teamwork looks like’ for each Task, such that Performance can be assessed not just in terms of output (i.e. whether the Task was completed to the required Standards) but also in terms of Attitudes and Behaviours; otherwise, there is a risk that outputs are achieved with sub-optimal Teamwork or, as a worst case, entirely by accident. ‘Good Teamwork’ can be captured as appropriate, but should typically include scrutiny within the Team of: coordination (of tasks, information and resources); communication; management (of workload, conflicts and errors); monitoring; planning; and synchronisation. This is approximately analogous to the Knowledge, Skills and Attitudes (KSA) Analysis.</td>
</tr>
<tr>
<td>1.3.6B</td>
<td>Teamwork Error Analysis</td>
<td>The concept of a Collective Training gap analogous to the Individual TNA Training Gap Analysis (TOA) is inappropriate in Team/Collective TNA. This is because it is very difficult to determine a starting state for a Team or capability comprising personnel at differing levels of ability and experience, even if all have met their Individual Role PS. Rather than considering ‘gaps’ between existing and required Performance, a Teamwork Error Analysis can instead be conducted, that provides a way to assess what training needs to be designed during Element 2 (Design) or what amendments are needed to existing training.</td>
</tr>
<tr>
<td></td>
<td>Technology Enhanced Learning (TEL)</td>
<td>Learning which is supported through the effective and efficient use of Learning Technology.</td>
</tr>
<tr>
<td></td>
<td>Terms of Reference (ToRs)</td>
<td>Documents that state what the various governance processes (such as working groups, boards, groups etc) are remitted to do. They provide the framework for each governance process and set their freedoms and constraints.</td>
</tr>
<tr>
<td></td>
<td>Tier 1 Measures</td>
<td>In Remedial Training, these are short, sharp measures to achieve short-term behavioural change, and can be implemented by the trainer without reference to a higher authority. Each training establishment, in conjunction with their SS policy, is to issue Direction on what Tier 1 measures are appropriate to their situation.</td>
</tr>
<tr>
<td>DSAT process Ref</td>
<td>Term</td>
<td>Definition</td>
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</tr>
<tr>
<td></td>
<td>Tier 2 Measures</td>
<td>In Remedial Training, these are more onerous measures which are aimed at addressing longer-term attitudinal or behavioural shortcomings, but which do not merit initiating disciplinary action. These will usually be undertaken outside of the normal training programme.</td>
</tr>
<tr>
<td>5.6</td>
<td>Trained output Requirement Review</td>
<td>A review that takes place to ensure that, based on the Role/Team PS and the draft TOs/CTOs, the training requirement would still be met. The review can be carried out at a Customer Executive Board (CEB), or if waiting for the next CEB would hold up the design process, at a CEB WG, or Out of Committee.</td>
</tr>
<tr>
<td></td>
<td>Trained Strength</td>
<td>The number of individuals who have completed Phase 2 training, having reached training Performance Standard.</td>
</tr>
<tr>
<td>5.14</td>
<td>Trainee and Trainer Management</td>
<td>A process to ensure that the Care and Welfare of all personnel that live and work within the training establishment is properly considered and captured in the Commander’s Supervisory Care Directive (SCD), which primarily sets out the trainee Care and Welfare activities. JSP 822, Part 1, provides detail.</td>
</tr>
<tr>
<td></td>
<td>Trainer</td>
<td>In the context of JSP 822, the term ‘trainer’ encompasses all those engaged in delivering training across Defence, for both individual and collective training.</td>
</tr>
<tr>
<td></td>
<td>Training</td>
<td>In the context of this JSP, ‘training’ encompasses any training, education, learning or development, both individual and collective, that is designed to meet the needs of a Training Requirements Authority.</td>
</tr>
<tr>
<td></td>
<td>Training activity</td>
<td>In the context of this JSP, the term ‘training activity’ encompasses all training, irrespective of Method, that is delivered across Defence, including individual training (such as courses in a training establishment and workplace training) and collective training (such as dry, instrumented or live exercises and simulated training, including Team and Collective Training (CT) ‘events’ (the term being taken from a Main Events List (MEL)). A training activity can encompass the whole course (or exercise) or part lesson (or CT event).</td>
</tr>
<tr>
<td></td>
<td>Training Administration and Financial Management Information Systems (TAFMIS)</td>
<td>A bespoke centralised (non-DII) system that provides DSAT-compliant tools to manage Defence training activities, as well as the means to extract business intelligence data to enable targets to be measured and improvements to be made. TAFMIS applications allow/help the users to: analyse Roles; develop and schedule training activities; manage resources and trainers; manage trainees and evaluate the training delivered. It is intended that TAFMIS (a lifed programme) will be replaced by the new Defence Learning and Management Capability (DLMC) in due course.</td>
</tr>
<tr>
<td></td>
<td>Training Audience</td>
<td>Also known as Target Audience or Target Population, this is the group of individuals or Teams expected to be the recipients of the training solution. As such their characteristics, personalities, Knowledge, Skills and Attitudes (KSA), existing competences, expectations etc. prior to commencement of training must be taken into consideration, during the analysis.</td>
</tr>
</tbody>
</table>

*As a rule of thumb, all training, education skills and development activity, where Government resource is being spent, is to be governed iaw DSAT. Training for operations, Defence Engagement activities, through-career education courses such as ICSC, ACSC and in-Service degrees are included as such requirements are to be controlled via a Customer Executive Board and appear on a Statement of Trained Requirement. Notably, activities procured through the SLC/ELC schemes are not subject to DSAT as they have their own governance processes.*
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>stages. Analysts should consider potential members of the training Audience from across the training continuum, from Individual through Team to Collective.</td>
</tr>
<tr>
<td>1.2.2</td>
<td>Training Audience (and throughput) Description</td>
<td>An estimate of who will be affected by the new or changed Defence requirement is required to ensure that it is representative and to determine throughput and input standards. The training Audience (and Throughput) Description should also include an estimate of the training population for training, the annual throughput and the input standard. This information can then be used to inform and refine the Statement of Trained Requirement (SOTR).</td>
</tr>
<tr>
<td>5.2/5.9</td>
<td>Training Authorisation Document (TrAD)</td>
<td>The authoritative and auditable document used by the CEB for the management of all Elements and stages of the DSAT process. The importance of the TrAD cannot be over-emphasised. It is the document which defines who is responsible for what during the life of a training activity. Essentially, it is the signed contract between the TRA, TDA and Training Provider and is a key document in the holding to account process. Every training activity across Defence must have a related TrAD. There are no exceptions. Throughout the life of a training activity a TrAD can be revised or renewed as the situation dictates. Records of all TrADs and any amendments must be retained by the TRA and TDA.</td>
</tr>
</tbody>
</table>
| 1.3.6A          | Training Categories | 1 - By the end of the training activity the trainees will have performed the whole Task several times, to the full Role Standard, and under realistic scenarios and Conditions in which the physical, functional and environmental fidelities were accurately reproduced. The trainee will be able to perform the Task competently, immediately on arrival in the workplace.  
2 - By the end of the training activity the trainee will have performed the whole Task at least once to full Role Standards, under realistic physical, functional and environmental conditions and in a realistic scenario. The trainee should be able to perform the Task on arrival in the workplace.  
3 - By the end of the training activity the trainee will have performed the whole Task in a training environment to a lesser Standard than required in the Role (safety standards to be met in full).  
4 - By the end of the training activity the trainee will have demonstrated an adequate level of underpinning Knowledge and principles required but will not have applied it to develop the Skills required to perform the Task.  
5 - All training delivered in, or under the auspices of, the workplace.  
6 - Trainees do not require any training. |
<p>|                 | Training Coordination | The coherence of the delivery of training, including the co-ordination of training pipelines. |
|                 | Training Deficiency | A shortfall in intended training that was not agreed by the TRA. Training deficiencies exist where deficiencies have arisen owing to either an inability to train certain TOs/CTOs or a training failure that has been picked up through the assurance process. Such deficiencies would suggest that trainees may not hold the competences that the training was designed to deliver. A Training Deficiency is not the same as the Residual Training Gap. The Residual Training Gap is agreed by the TRA early on in the DSAT process and is articulated in the Residual Training Gap Statement. |
|                 | Training Delivery | The provision of training based on the Training Objectives (TOs)/Collective Training Objectives (CTOs) produced by training Design. |
|                 | Training Delivery Authority (TDA) | The organisation responsible for training delivery, but not necessarily the conduct of the actual training itself. |</p>
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td></td>
<td><strong>Training Design</strong></td>
<td>The process, which derives achievable Objectives and training solutions from the products of the Training Needs Analysis (TNA), which are agreed between the Sponsor and the Training Provider.</td>
</tr>
<tr>
<td></td>
<td><strong>Training DLoD (TLoD)</strong></td>
<td>The provision of the means to practise, develop, and validate, within constraints, the practical application of a common military doctrine to deliver a military capability.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Effectiveness</strong></td>
<td>The degree to which training enables Performance in a Role.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Efficiency</strong></td>
<td>The extent to which the Training Objectives (TOs)/Collective Training Objectives (CTOs) are satisfied in relation to the expenditure of resources (time, money, manpower, facilities and equipment).</td>
</tr>
<tr>
<td></td>
<td><strong>1.6.2B Training Environment Options</strong></td>
<td>Based on the Fidelity Analysis, options for training environments should be identified. These will typically be either live or synthetic and are further broken down into 3 categories: Live; Virtual; and Constructive. Once Fidelity requirements have been analysed and options identified, the potential training environments should be specified in sufficient detail to allow for subsequent selection between them. Wherever possible, the specification should include consideration of the DLoDs and should be written such that it can be employed, if selected, in the acquisition of Collective Training.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Environment Rationalisation</strong></td>
<td>Rationalising training environments, or grouping together training Tasks, can reduce the specification of training environments. Although in theory each Task should be conducted in the optimum training environment, in practice this is likely to prove costly and impractical; therefore, rationalisation is necessary, typically resulting in groupings of training Tasks against potential environments. Analysis should also consider what training environments already exist (including those for Individual training) and whether they can be extended or should be assumed to form part of the training solution.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Establishment</strong></td>
<td>An organisation resourced and staffed specifically for the purpose of delivering formal training. This can be an MOD or contractor-owned establishment.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Gap</strong></td>
<td>The gap between the new or changed training requirement, in the form of a Role PS, and any pre-existing Training Objectives (TOs) and Enabling Objectives (EOs), including associated specialist qualifications, for the training of each affected Role holder. These Gaps represent the impact on the training requirement, for the continuation of existing training, using existing resources. To close the Gap will likely require additional resources, in order to bring existing training up to the requirement of the new or changed training need.</td>
</tr>
<tr>
<td></td>
<td><strong>1.4A Training Gap Analysis (TGA)</strong></td>
<td>A process to identify the additional training requirement of the affected Role holders by determining the training Gap between the Performance as stated in the Role PS and any existing training Performance Standard(s). This analysis also enables the impact upon Defence capability to be assessed if the new or changed Defence capability is implemented without additional training.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Management Specialist</strong></td>
<td>In the context of the DTC, a nominated RN Training Manager, RAF Personnel (Training) Officer or ETS Officer who can be deemed as Suitably Qualified and Experienced Personnel (SQEP). For MoD civilian job groups, the monitoring of performance is outlined in the respective MPD.</td>
</tr>
<tr>
<td></td>
<td><strong>Training Needs Analysis (TNA)</strong></td>
<td>A structured scoping and analysis of training need arising as a result of new equipment acquisition, doctrinal change, organisational change, or changes to policy/legislation. It generally includes a comparison of different training Methods and technologies, with a view to recommending the optimum training solution for maximum cost-effectiveness. It is a highly flexible procedure with the choice of supporting tools and techniques to suit different training systems. In all cases, however,</td>
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<td>DSAT process Ref</td>
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<tr>
<td></td>
<td><strong>Training Needs Evaluation (TNE)</strong></td>
<td>Conducted in Element 4 (Assurance), this process assesses and reports on the effectiveness of the TNA process as well as the ability of the implemented training solution to meet the Defence requirement. It is conducted in 2 parts: Evaluation of the process, and Evaluation of the training solution. The key output is an assessment of how well the TNA outputs contributed to the provision of a training solution that meets the Defence requirement. This completes the TNA process.</td>
</tr>
<tr>
<td><strong>1.7</strong></td>
<td><strong>Training Needs Report</strong></td>
<td>This document details the analysis of the cost benefits and the merits of the training options, before confirming the TNASG endorsed training solution, which includes the Role/Team Performance Statement (Role/Team PS). The TNA process, starting from the Scoping Exercise, should develop data into a Training Needs Report that specifies the training requirement and recommend a training solution (or otherwise) through the evaluation of options, and include the resources required to design and support the training. It should collate all the information from the Scoping Exercise and Analyses stages, adding an Implementation Plan and Training Needs Evaluation (TNE) strategy. It should also include a description of the TNA methodology in terms of the data gathering and analysis techniques and clearly reference the data sources consulted. The TNA (either Individual, or Team/Collective, or both) can then be written up as a Training Needs Report that provides or supports detailed User and System Requirements. The key output is a recommendation as to the most cost-effective training solution, which inputs into the Statement of Trained Requirement (SOTR). An implementation plan is also included.</td>
</tr>
<tr>
<td><strong>1.8</strong></td>
<td><strong>Training Needs Evaluation (TNE)</strong></td>
<td>Conducted in Element 4 (Assurance), this process assesses and reports on the effectiveness of the TNA process as well as the ability of the implemented training solution to meet the Defence requirement. It is conducted in 2 parts: Evaluation of the process, and Evaluation of the training solution. The key output is an assessment of how well the TNA outputs contributed to the provision of a training solution that meets the Defence requirement. This completes the TNA process.</td>
</tr>
<tr>
<td><strong>2.1</strong></td>
<td><strong>Training Objectives (TO)</strong></td>
<td>Statements of training output to ensure that the training activity is focussed with a definite purpose such that the Defence need is met. They help ensure that the trainers, support staff and trainees have a clear understanding of what the trainees are required to learn and what is expected of them on completion of the learning experience. TOs form the basis of the detailed design of each of the training lessons, as well as identification of appropriate training resources. They may also be used in support of the award of civilian accreditation.</td>
</tr>
<tr>
<td><strong>Training Options</strong></td>
<td><strong>Possible or potential training solutions that are developed during Element 1 (Analysis). They are then compared and the most suitable and cost-effective option becomes the recommended training solution that is put forward in the Training Needs Report.</strong></td>
<td>A process to consider each relevant Performance objective in the Role PS to assess the extent to which the training environment should replicate the workplace (real) environment to enable training to be effective. This is known as the Fidelity Analysis. The implications of locations and environment for training and Methods &amp; Media options are then considered. The key outputs are the realistic options for Methods &amp; Media and refinement (based upon fidelity, locations and environment) of the possible training solutions.</td>
</tr>
<tr>
<td><strong>2.2.1</strong></td>
<td><strong>Training Performance Statement (TPS)</strong></td>
<td>A statement of the TOs/CTOs (in terms of Performance, Conditions and Standards) to be attained by trainees. The TPS TOs/CTOs are managed and/or delivered by the TDA.</td>
</tr>
<tr>
<td><strong>Training Provider</strong></td>
<td><strong>The Training Provider is the training school, college, organisation, establishment or group that conducts either individual or collective training (or both). It may use a variety of blended learning techniques and include workplace training, but is</strong></td>
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<tr>
<td>DSAT process Ref</td>
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<tr>
<td></td>
<td>essential the provision of training by trainers\textsuperscript{242} to trainees\textsuperscript{243}. It is where the training activity that has been analysed and designed, is finally delivered.</td>
<td></td>
</tr>
</tbody>
</table>

5.13

Training Quality Manual (TQM)

The document that sets the requirements, both in process and output terms, necessary to set and maintain the Defence mandated QMS. Each TQM will be unique to the specific requirements of the Training System for which it is written.

Training Rationalisation

The process of making (specified elements of) training and education more efficient, through re-organisation on a Defence-wide basis, in order to reduce or eliminate unnecessary waste of (all) training resources, and continue to support the delivery of Defence outputs.

Training Requirements Authority (TRA)

The TRA represents the end-user of the trained output and is the ultimate authority for the derivation and maintenance of the Role Performance Statement (Role PS). The TRA is responsible for the evaluation of the effect of the training in achieving the Role PS wherever the training is delivered.

Training Scenarios

Used to draft collective Training Objectives (CTOs), training scenarios are options of delivering different types of Collective Training exercises and events. They will likely be geographically orientated and constrained by these physical, geographical requirements.

Training solution

The option chosen from the training options considered in Element 1 (Analysis). The selected solution will have been recommended to the TNASG in the Training Needs Report, accepted endorsed, and then carried forward into Element 2 (Design) as the solution that the Training Provider will ultimately deliver in Element 3 (Delivery). The training solution forms part of the Training System.

Training Support

All the activities that directly facilitate the delivery of effective and efficient training. In the context of Defence training, these activities include: Analysis; Design; Delivery; Assessment; Accreditation; Quality Assurance (QA); Programming (Scheduling); IT/IS Support; Graphics/Reprographics support; Training the Trainer; Research & Development.

1.1.1

Training Support Plan (TSP)

A statement of any constraints on the TNA in terms of training policy or funding, ensuring that all the actions required to produce cost-effective training support are identified and the appropriate agencies tasked. The TSP should also specify when the TNA activities are to be conducted, who is responsible for the management and conduct of the TNA process and when and how the outputs are to be evaluated. Assurance and requirements should also be included.

Training System

Comprises the 4 Elements of DSAT, and the governance, management and assurance processes (including those activities in DSAT Element 4), collectively known as the Management of Training System (MTS). When conducted correctly, the Training System delivers training that meets the DSAT Quality Management Standard (QMS) mandated by Defence.

\textsuperscript{242} In the context of this JSP, the term ‘Trainer’ encompasses all those engaged in delivering training across Defence, for both individual and collective training.

\textsuperscript{243} In the context of this JSP, the term ‘Trainee’ encompasses all those in the receipt of training across Defence, for both individual and collective training, and encompasses such terms as ‘Recruit’, ‘Student’, ‘Learner’, ‘Officer Cadet’, ‘Exercising Troops’ etc. These and other terms continue to be used in the wider Defence training community, particularly in Phase 1, Phase 2 and Collective Training.
<table>
<thead>
<tr>
<th>DSAT process Ref</th>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>5.13.1</td>
<td>Training Targets</td>
<td>These ensure that the Training System remains effective, efficient and appropriate to the training need. They should be designed to ensure that the Training System meets the requirements for the trained output and be measurable and consistent.</td>
</tr>
<tr>
<td>Training Throughput</td>
<td>An estimate of training throughput numbers (total Audience and annual Throughput requirements) will inform requirements for the size and capacity of the potential training solution, and must be made available to inform the Statement of Trained Requirement (SOTR) process, which forecasts annual Throughput requirements 4 years in advance, in order to help generate the required capability. Throughput numbers may be required in support of a variety of related training solutions for each distinct training Audience group. Throughput figures should be calculated separately for each type of training required and for all affected Defence people, MoD civilians and contractors.</td>
<td></td>
</tr>
<tr>
<td>5.18</td>
<td>Training, Education, Skills, Recruiting and Resettlement (TESRRR) Policy and Assurance Group (TESRRR PAG)</td>
<td>1* Defence level Group that provides strategic Direction on Defence Training, Education, Skills and Resettlement (TESRRR) matters. It is the principal forum for the governance and assurance of such activities throughout Defence.</td>
</tr>
<tr>
<td>Understanding DSAT</td>
<td>An online individual training package for those who need a basic understanding of the principles of DSAT and the roles and responsibilities within it. It can be used for both ab initio and refresher training. Understanding DSAT training is embedded in DTTT Phase 1 and 2 and DTTT Phase 3.</td>
<td></td>
</tr>
<tr>
<td>User</td>
<td>Within the context of JSP 822, the user is the person, group or team, using the DSAT process, as described in the JSP.</td>
<td></td>
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<tr>
<td>Validation (Collective Training)</td>
<td>An appraisal of how well the training met the force generation requirement relative to expenditure (InVal) and that the evaluation was sufficiently objective to assess readiness via risk management (ExVal).</td>
<td></td>
</tr>
<tr>
<td>Value for Money (VfM)</td>
<td>The optimal combination of time, cost and effectiveness within available resources.</td>
<td></td>
</tr>
<tr>
<td>Virtual Learning Environment (VLE)</td>
<td>A Course Management System that supports blended learning accessed via an Internet browser. It typically contains a variety of tools to facilitate teaching and learning, in addition to management functions that enable monitoring of user access and progress.</td>
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<tr>
<td>Vulnerable Adult</td>
<td>Vulnerable adults are:</td>
<td></td>
</tr>
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<td></td>
<td>(1) Those in residential accommodation provided in connection with care or nursing or in receipt of domiciliary care services.</td>
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<td></td>
<td>(2) Those receiving health care.</td>
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<td>(3) Those in lawful custody or under the supervision of a probation officer.</td>
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<td>DSAT process Ref</td>
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<td>Definition</td>
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<td>(4)</td>
<td>Those receiving a welfare service of a prescribed description or direct payments from a social services authority.</td>
<td></td>
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<tr>
<td>(5)</td>
<td>Those receiving services, or taking part in activities, aimed at people with disabilities or special needs because of their age or state of health.</td>
<td></td>
</tr>
<tr>
<td>(6)</td>
<td>Those who need assistance in the conduct of their affairs.</td>
<td></td>
</tr>
<tr>
<td>Whole Force</td>
<td>The Whole Force encompasses Regular and Reserve personnel, MOD Civil Servants and civilians, including contractors.</td>
<td></td>
</tr>
<tr>
<td>5.20</td>
<td>Working Group</td>
<td>These can be formed to support the governance process and assist with developing the DSAT process. They are usually formed using the authority vested in the Customer Executive Board (CEB) and therefore report their findings and outputs to it.</td>
</tr>
<tr>
<td>Workplace Training (WT)</td>
<td>Training that is managed and/or delivered by the employing unit. The training may address all or part of the training required to meet the Role PS as articulated in the Workplace Training Statement. WT may also be other training which has not been derived through the formal DSAT process.</td>
<td></td>
</tr>
<tr>
<td>2.2.2</td>
<td>Workplace Training Statement (WTS)</td>
<td>A statement of the TOs/CTOs (in terms of Performance, Conditions and Standards) to be attained by trainees following assignment to a Role. The WTS TOs/CTOs are managed and/or delivered by the employing unit.</td>
</tr>
</tbody>
</table>
### 4.2 Abbreviations and Acronyms used within JSP 822

**Sponsor: TESRR, CDP**

<table>
<thead>
<tr>
<th>Abbreviation/Acronym</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>A</td>
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<tr>
<td>ASpec</td>
<td>Assessment Specification</td>
</tr>
<tr>
<td>AStrat</td>
<td>Assessment Strategy</td>
</tr>
<tr>
<td>B</td>
<td></td>
</tr>
<tr>
<td>BARS</td>
<td>Behaviourally Anchored Rating Scales</td>
</tr>
<tr>
<td>C</td>
<td></td>
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<tr>
<td>CAS</td>
<td>Continuous Attitude Survey</td>
</tr>
<tr>
<td>CBA</td>
<td>Cost Benefit Analysis</td>
</tr>
<tr>
<td>CDT</td>
<td>Compulsory Drugs Test</td>
</tr>
<tr>
<td>CEB</td>
<td>Customer Executive Board</td>
</tr>
<tr>
<td>CI</td>
<td>Continuous Improvement</td>
</tr>
<tr>
<td>CIF</td>
<td>Common Inspection Framework</td>
</tr>
<tr>
<td>CRA</td>
<td>Commander's Risk Assessment</td>
</tr>
<tr>
<td>CRAT</td>
<td>Competence Retention Analysis Technique</td>
</tr>
<tr>
<td>CRL</td>
<td>Catering, Retail and Leisure</td>
</tr>
<tr>
<td>CT</td>
<td>Collective Training</td>
</tr>
<tr>
<td>CTO</td>
<td>Collective Training Objective</td>
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<td>D</td>
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<tr>
<td>DAOR</td>
<td>Discharge As Of Right</td>
</tr>
<tr>
<td>DCTS</td>
<td>Defence Centre of Training Support</td>
</tr>
<tr>
<td>DCYP</td>
<td>Directorate of Children and Young People</td>
</tr>
<tr>
<td>DJCTEC</td>
<td>Defence Joint Collective Training and Exercise Committee</td>
</tr>
<tr>
<td>DELC</td>
<td>Defence Technology Enhanced Learning Centre</td>
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</tbody>
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244 Training Education, Skills, Recruiting and Resettlement, part of Chief of Defence People, 6th Floor, MoD Main Building.
<table>
<thead>
<tr>
<th>Abbreviation/Acronym</th>
<th>Meaning</th>
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<tr>
<td>DLE</td>
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</tr>
<tr>
<td>DLMC</td>
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<td>Defence People and Training Board</td>
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<td>Defence Systems Approach to Training</td>
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<td>Discharge U18</td>
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<td>DWT</td>
<td>Defence Workplace Trainer</td>
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<tr>
<td>DIF Analysis</td>
<td>Difficulty, Importance, Frequency Analysis</td>
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<td>DT</td>
<td>Distributed Training</td>
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<tr>
<td>EDI</td>
<td>Equality, Diversion and Inclusion</td>
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<tr>
<td>EO</td>
<td>Enabling Objective</td>
</tr>
<tr>
<td>EA</td>
<td>Environment Analysis</td>
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<td>Further Education and Higher Education Scheme</td>
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<tr>
<td>FTS</td>
<td>Formal Training Statement</td>
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<td>FS</td>
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<td>HTA</td>
<td>Hierarchical Task Analysis</td>
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<td>iDSC</td>
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<td>Joint Commitments Strategic Steering Group</td>
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<td>Learning Specification</td>
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<td>Management of Training System</td>
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<td>Methods &amp; Media Selection Tool</td>
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<td>O</td>
<td>Overlay Analysis</td>
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<td>OA</td>
<td>Officer Cadet (Training) Survey</td>
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<td>Quality Management Standard</td>
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<td>RFTD</td>
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<td>RTS</td>
<td>Recruit Training Survey</td>
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<td>SAR</td>
<td>Self-Assessment Report</td>
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<td>SCs</td>
<td>Service Commands</td>
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<td>SCD</td>
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<td>Statement of Trained Requirement</td>
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<td>SOTT</td>
<td>Statement of Training Task</td>
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<td>SpLD</td>
<td>Specific Learning Difficulties</td>
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<td>Terms and Conditions of Service</td>
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<td>Team/Collective Task Analysis</td>
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<td>Team PS</td>
<td>Team Performance Statement</td>
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<td>TEL</td>
<td>Technology Enhanced Learning</td>
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<td>ToRs</td>
<td>Terms of Reference</td>
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<td>Training Administration and Financial Management Information System</td>
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<td>TESRRR</td>
<td>Training, Education, Skills, Recruiting and Resettlement</td>
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<td>TrAD</td>
<td>Training Authorisation Document</td>
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<td>TDA</td>
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<td>Training, Education, Skills, Recruitment and Resettlement (TESRRR) Policy and Assurance Group</td>
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<td><strong>U</strong></td>
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<tr>
<td>UTS</td>
<td>Untrained Strength</td>
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<td><strong>V</strong></td>
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<td>VLE</td>
<td>Virtual Learning Environment</td>
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<td>WTS</td>
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</table>
## 5 Related Dstl Research

### 5.1 Research Relating to DSAT

The Defence Science and Technology Laboratory (Dstl) ensures that innovative science and technology contribute to the defence and security of the UK. It is responsible for leading on the MOD’s science and technology programme, including the management and delivery of Training and Education research. Many of the outputs are directly relevant to the DSAT and have been referenced in this policy as further reading. Table 1 provides an overview of key recent research outputs mapped to DSAT Elements, including a list of available assets. The full research reports and supporting summary documents are referenced at Table 2 and are available on the Defence intranet JSP 822 page.

<table>
<thead>
<tr>
<th>Title and Task Identification Number [TIN]</th>
<th>Summary</th>
<th>Products</th>
<th>Main DSAT Element(s)</th>
</tr>
</thead>
</table>
| Competence retention                       | The research aim was to develop generally applicable principles and guidance for improving competence retention in military training. There were two key objectives relating to this aim:  
  - To identify and describe the psychological mechanisms explaining competence retention in military training.  
  - To develop best practice measures and interventions to optimise competence retention. | Revised Knowledge, Skills and Attitudes taxonomy that is based on the psychological literature, and provides a basis for an analysis of refresher training requirements.  
  Competence Retention Analysis Technique: an analytical method to be used alongside Difficulty, Importance and Frequency (DIF) to inform the specification of refresher training requirements.  
  A set of factors that moderate competence retention (e.g. time criticality, presence of job aids, frequency of skill application and importance).  
  A description of the training methods that research has found to benefit skill acquisition and retention. | Analysis Design |
<p>| TIN 2.001, Task 1.1                        |         |          |                      |
| Competence Retention Analysis User Guide   |         |          |                      |
| TIN 2.057                                  |         |          |                      |
| [Document Refs: 1 – 4]                     |         |          |                      |</p>
<table>
<thead>
<tr>
<th>Title and Task Identification Number [TIN]</th>
<th>Summary</th>
<th>Products</th>
<th>Main DSAT Element(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current and Future Skills Requirements Study: Elements of Understanding</td>
<td>This research investigated the question: ‘What additional or enhanced skills do Officers (SO1 – SO3) need to develop sufficient Understanding of complex, joint, multi-national and inter-agency environments, that enables effective decision-making, leadership, communication and engagement?’</td>
<td>An evidenced-based Skills Framework relating to Understanding, consisting of: - Six competency areas entitled: Self-Awareness, Self-management, Social awareness, Relationship management, Context awareness and Context management; and - A set of associated elements and descriptors. For example, cognitive fitness, reason by analogy, communicates using appropriate social conventions.</td>
<td>Analysis Assurance</td>
</tr>
<tr>
<td>Digital Literacy</td>
<td>This research aimed to investigate the digital literacy skills, knowledge and attributes required to make use of digital technologies to support current and future training and education.</td>
<td>An evidence-based Digital Literacy Framework consisting of: - Seven competency areas entitled: ICT Technical Literacy; Creating and Sharing Information; Finding and Accessing Information; Communication and Collaboration; Organising and Evaluating Information; Online</td>
<td>Analysis</td>
</tr>
<tr>
<td>Title and Task Identification Number [TIN]</td>
<td>Summary</td>
<td>Products</td>
<td>Main DSAT Element(s)</td>
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<tr>
<td>Life Skills TIN 2.041 [Document Refs: 11 &amp; 12]</td>
<td>This research aimed to investigate the current provision of Life Skills among the armed forces, identify any shortfalls and devise appropriate measures of success for future provision.</td>
<td>Identity and Safety; and Self-directed Learning; and - A set of associated Knowledge, Skills and Attributes. For example, ability to access online peer support networks to assist with learning. Evidence for the content and structure of the framework is reported and based on the academic literature and engagement with training delivery organisations within and outside of defence.</td>
<td>Analysis Design Assurance</td>
</tr>
</tbody>
</table>

A definition of life skills: ‘Those skills that lead to the positive behaviours that underpin successful personal, social, work and civic outcomes’.

A Life Skills model detailing broad categories of Life Skills and outcomes, including:
- **Basic Skills** (Literacy, Numeracy, ICT, Communications); Self-Awareness/Self-Management and Ability to Manage Own Learning;
- **Complex Skills and Abilities** (e.g. negotiation and influence, inter-personal skills, problem solving);
- **Outcomes** (e.g. social competence, resilience/adaptability, personal growth).

Evidence for the usefulness of the Model to inform an audit of the Life Skills provision for each of the Single Services across the four career stages: Early Career (including Phase
<table>
<thead>
<tr>
<th>Title and Task Identification Number [TIN]</th>
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<th>Products</th>
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</tr>
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<tbody>
<tr>
<td>Optimising the blend of live, synthetic and constructive assets to deliver training and education</td>
<td>This research addressed the issue that although blended Live, Virtual and Constructive (LVC) simulation is increasingly used to support Training and Education, little attention is paid to the relevance and impact of Human Considerations (e.g. the ‘Knowledge, Skills and Attitudes’ of the trainees or physiological considerations) when choosing and optimising LVC blends for specific training tasks, especially at team and collective levels.</td>
<td>A Human Considerations Assessment Framework (HCAF) that supports LVC investment decisions and covers nineteen different Human Considerations (e.g. error management, operational safety and coordination – teamwork; Generational differences) that are relevant when choosing LVC blends).</td>
<td>Analysis Design</td>
</tr>
</tbody>
</table>
| Training Intervention Optimisation | The aim of the research was to enhance MOD’s understanding of how the characteristics of the trainee and trainer should be taken into account in order to optimise the overall effectiveness of the training system, and to provide advice on how this might be achieved. | A body of information providing latest thinking in relation to training design and delivery, and general competence management; including:  
- The characteristics that drive trainee engagement and motivation;  
- Cultural issues and attitudes in training,  
- Understanding how to identify, characterise and train the critical experiences that are believed to be found only on operations;  
- Human characteristics that underpin the ability to deliver an ‘agile edge’; | Design Delivery |
<table>
<thead>
<tr>
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<th>Products</th>
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</table>
| Understanding Training Delivery   | The aim of this research was to provide the Ministry of Defence (MOD) with an understanding of the factors that influence how receptive humans are to learning and how this understanding can be applied to improve education/training development. The creation of a greater understanding of the influencers, potential benefits and associated issues or barriers will aid the development of a training programme that meets future needs. | - A review and synthesis of literature relating to underpinning theory and good practice in student-centric learning.  
- A Case study review of training delivery good practice in place within Defence.  
- Materials (with a theoretical underpinning) suitable for training instructors in Critical Self-Analysis in Learning and Teaching (CSALT), a vital component of student-centric training delivery. | Delivery |
| TIN 2.014 Task 2  
[Document Refs: 21 – 23] | | | |
| Team and Collective Training Needs Analysis Methodology Update  | The analysis tools and techniques available to support the conduct of the Defence Systems Approach to Training (DSAT) analysis phase have been developed in the individual training domain and do not address the scale and complexity of team and collective training. The Team and Collective Training Needs Analysis (TCTNA) methodology was developed in 2011 to address this methodological gap. | A guidance document on the conduct of team and collective training needs analysis, including two illustrative case studies. | Analysis Design |
| TIN 2.031  
[Document Refs: 24 & 25] | | | |
| Ability of e-learning to deliver training and education in support of military capability  | The research explores two key questions: What evidence is there that the use of E-Learning, as part of a blended learning approach, leads to better long-term retention of knowledge and skills when compared to a more traditional approach? And in order to maximise any potential benefits associated with E-Learning - are traditional pedagogies still applicable, do they need to be modified or is a paradigm shift required? | An E-Learning Activity Matrix which may be used to inform E-Learning Policy. The Matrix is an adaptation of the 3E (Enhance, Extend, Empower) Framework used widely across academia. It shows how technology can be harnessed to increase active learning (Enhance), through to uses of technology that underpin more sophisticated learning activities that reflect how knowledge is increasingly | Design Delivery |
| TIN 2.036  
[Document Refs: 26 – 28] | | | |
<table>
<thead>
<tr>
<th>Title and Task Identification Number [TIN]</th>
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<th>Main DSAT Element(s)</th>
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</thead>
<tbody>
<tr>
<td>Human Factors Guidance for Designers of Interactive 3D and Games-Based Training Systems [Document Ref: 29]</td>
<td>Provision of guidance for designers of Interactive 3D and Games-Based Training Systems.</td>
<td>The Guide book is divided into two main parts: Part One includes a consideration of different types and levels of fidelity, including task, context and hypo and hyper-fidelity and types of displays (e.g. “Enclosure” – based display and interaction systems, haptic and olfactory displays and mobile/portable technologies. Part Two provides a series of 20 case studies drawn from the Medical (civilian and defence), Naval, Land, Air and Civilian sectors, providing evidence for the application of these particular types of training technologies.</td>
<td>Analysis Design</td>
</tr>
<tr>
<td>Review of Recent Concepts, Theories and Emerging Principles for Training [Document Ref: 30]</td>
<td>The aim of this work was to identify new concepts, theories, and principles concerning the design of training that may improve learning and transfer to operational environments.</td>
<td>An overview of new training principles in the form of if-then heuristics for four types of skill (metacognitive skills, complex conceptual understanding and multiple representations, adaptable skills, and stress-resistant skills) and three</td>
<td>Design Delivery</td>
</tr>
<tr>
<td>Title and Task Identification Number [TIN]</td>
<td>Summary</td>
<td>Products</td>
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<td>training techniques (imagination and mental practice, worked examples, and practice and feedback).</td>
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<td>In total 17 if-then heuristics are detailed that can be used by training designers to optimise learning effectiveness. In addition, two general theories of training design have been elaborated: Cognitive Load Theory, and Error Management Training, both of which have received significant new evidence in the last decade.</td>
<td></td>
</tr>
<tr>
<td>Training effectiveness measures TIN 2.001 Task 2.2a [Document Refs: 31 – 33]</td>
<td>The aim of this work was to develop a Framework that can be used to inform best practice in assessing training outcomes and to evaluate training.</td>
<td>Guidance that: - Explains the overarching need to measure training effectiveness - Provides practical guidance on what, how and when to measure training effectiveness [refer Pragmatic Guidance - Appendix A], - Identifies feedback mechanisms so that training remains related to the operational need, - Includes guidance on Collective Training as well as Individual Training.</td>
<td>Assurance</td>
</tr>
<tr>
<td>Outsourced Training Services TIN 2.045 [Document Refs: 34 &amp; 35]</td>
<td>Recent defence initiatives have stimulated reviews of training design, delivery and support for military personnel leading to an increase in the outsourcing of training to service providers external to the Ministry of Defence (MOD). This, coupled with the need for enhanced planning to realise the full benefits of outsourcing, has led to the need for a structured and repeatable way of making outsourcing decisions. This framework will support</td>
<td>An evidence-based framework, presented within an Excel spreadsheet with supporting questions that allows decision makers to: - Identify the variables that should be considered as part of outsourcing decisions, - Understand the benefits and risks of outsourcing, - Make decisions that are evidence based, repeatable and consider</td>
<td>MTS</td>
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<tr>
<td>Title and Task Identification Number [TIN]</td>
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<td>Products</td>
<td>Main DSAT Element(s)</td>
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<td>Training Assurance TIN 3.163 [Document Ref: 36]</td>
<td>Without an appropriate assurance system in place there is an increased risk that components of the force will not be appropriately prepared for operations or the complex environments in which they are required to operate. A better understanding of how to assure the totality of the training continuum and in association how to identify, quantify and manage performance and risk through the assurance process is required. The work focused on Maritime Training, but has pan-Defence applicability.</td>
<td>A decision framework, structured around a flow chart which includes three main sections: - Determine main purpose of assurance; - Identify assurance activities; - Obtain advice and guidance. For each activity, the frameworks provides advice and guidance concerning: - Who should be involved in the assurance activity; - What should be assured; - When the assurance activity should take place; - How the assurance activity should be delivered. The framework also provides advice and guidance from other industries and literature. This enables users of the framework to easily compare and contrast the existing MOD approach with alternatives.</td>
<td>Assurance</td>
</tr>
</tbody>
</table>

Table 1. Overview of Key Research Outputs Relevant to DSAT
<table>
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<tr>
<th>Serial</th>
<th>Research Reference</th>
</tr>
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<tbody>
<tr>
<td>[1]</td>
<td>TIN 2.001, Task 1.1: Competence Retention, Aug 13, v5. UC-DHCSTC_I2_T_T2_001_1.1/005.</td>
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<tr>
<td></td>
<td>• Part 1 – Introduction</td>
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<td>• Part 2 – Hosting and Delivery Options</td>
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<td>• Part 3 – Coaching</td>
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<td></td>
<td>• Part 4 – Cognitive and Hierarchical Task Analysis</td>
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<td>• Part 5 – Competence Retention</td>
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<td>• Part 6 – Competence Framework Development</td>
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<td>• Part 7 – Fidelity Analysis</td>
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<td>• Part 8 – Live, Synthetic Blend</td>
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<td>• Part 9 – Media Selection</td>
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<td>• Part 10 – Scheduling Resource Management</td>
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<td>• Part 11 – Tools to Assist in Scalar Development</td>
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<td>• Part 12 – Workload Assessment</td>
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<td>[31]</td>
<td>TIN 2.001, Task 2.2a: Review of Training Effectiveness Measures, Oct 13, v3. UC-DHCSTC_I2_T_T2_001_2.2/005.</td>
</tr>
</tbody>
</table>

Table 2. Dstl Research Summary Reference List
6 Defence Guidance for Personal Development Records and Postgraduate Education

6.1 The Personal Development Record

Policy Sponsor: TESRR, CDP

Lifelong Learning is designed to improve access to learning opportunities and to encourage personnel to take greater responsibility for, and interest in, their own learning. Learning records are a low cost, high value demonstration of an organisation’s commitment to Lifelong Learning but, to be effective, Personal Development Records (PDRs) need ongoing support. The successful use of PDRs by the single Services (sS) and MOD Civil Service (CS) complements existing personal development plans, facilitates career progression and motivates, giving the individual a sense of value and inculcating pride in their achievements.

The Defence intention is, “to strongly encourage all staff to maximise their personal development potential and complete and maintain a Personal Development Record which is a useful tool to help assist with personal development planning. Where there is a requirement to provide an evidence-based audit of continuing development through membership of professional external institutions or where there is draw down of Government funding, a Personal Development Plan (PDP) must be completed. The PDP or equivalent (where it serves the same purpose) must also be completed where it is a requirement of the single Service/civilian appraisal procedures.”

Aim

1. To aid personal development by providing Defence Guidance for the use of an individual PDR, as part of Defence Lifelong Learning.

Personal development

2. There are many differing interpretations of personal development used within Defence and the wider profession of training and development. The agreed definition for Defence describes personal development as ‘the individual improvement which results from a personally tailored programme of education, training and experience’. Personal development is:

   a. personal development required within an individual’s present job.

   b. personal development required for their longer term career.

   c. personal development required for, or identified by, the individual to support their wider interests.

245 Training Education, Skills, Recruiting and Resettlement, part of Chief of Defence People, 6th Floor, MOD Main Building. The POC for this Guidance is C1 Personal Development and Education (People-TESRRR-PersDevEd).
3. Lifelong Learning is, therefore, a process of nurturing, shaping and improving an individual’s skills, knowledge and competences to ensure their maximum effectiveness and adaptability, and to minimise the obsolescence of skills. It does not necessarily imply upward movement; rather, it is about enabling individuals to improve and use their full potential at each career stage. Development goes beyond formal education and training to embrace any activity that helps an individual develop in line with their personal and professional goals.

**Personal development record**

4. A PDR is a tool to encourage individuals to take greater responsibility for their personal and professional development. PDRs allow Defence people to record achievements, qualifications and experience. They also help individuals track their progress, review and plan development and assist with identifying learning, training, goals and aspirations both within and beyond a career in Defence. A PDR is a personal document, owned and maintained by the individual. However, line managers and commanders have an important role to play in supporting individual’s completion of the record. They will often be in a better position to make an objective assessment of an individual’s capabilities and competences and identify training and development needs, particularly for the current post.

**Principles**

5. The Department’s approach to PDRs is underpinned by the following key principles:

   a. All Defence people have the right to use and maintain a PDR and should be encouraged to do so.

   b. It is best practice to use and maintain a PDR and therefore all Defence people are entitled to be provided with a PDR in both hard copy and/or electronic format.

   c. PDRs become the personal property of the document owner. They are maintained by the owner and it is entirely the choice of the owner whether information is made available to anyone else with the following exceptions:

      (1) It is a requirement for members of a wide range of professional organisations to use and maintain a PDR. A PDR either in whole or in part may be required for assessment purposes;

      (2) A PDR can be a requirement for audit purposes where Government funding is drawn down for a training or education development activity;

      (3) A PDR should include a PDP, which may be required for assessment purposes;

      (4) In accordance with sS and CS policies, Defence people are encouraged to complete a Personal Development/Training Plan associated with their own appraisal process. CS are also required to identify and report against 3 development objectives as part of their performance appraisal process;

      (5) Completion of PDR elements covering an individual’s post, trade or branch specialism may be mandated and inspected by the Chain of Command.
d. Where appropriate, Defence people are to be given time at work to maintain their PDRs.

e. The Chain of Command is to ensure that support is available and given where requested to assist Defence people in the use and maintenance of their PDR.

f. Whilst Defence people are responsible for their own development, line managers and commanders have a role to develop the people who work for them. Career managers must do all they can to provide development opportunities for subordinates and, as part of that, encourage and promote the use of PDRs, and discuss personal development during the appraisal process.

Generic PDR structure

6. A PDR should be designed to be user friendly, low maintenance and incorporate many of the existing principles of SS and CS personal development. Whilst there is no mandated structure, PDRs are likely to comprise:

   a. **General introduction.** An overview of PDR features, benefits and contents.

   b. **Personal profile.** Collate personal details, qualifications, employment details, training and development records and curriculum vitae.

   c. **Personal development plan.** Show how to prepare a PDP. It may, for example, contain simple analytical tools to help to identify personal development goals and plan how to achieve them.

   d. **Branch/Trade/Specialism.** Sponsored by the relevant branch or trade and issued separately as required. For recording branch/trade-specific training and development activities. It may, for example, include a generic career template for the branch or trade showing opportunities for civilian accreditation or details of training and development showing knowledge, skills and competences gained.

   e. **Current employment.** Collate data relevant to current job. It should contain a job description, terms of reference, job objectives, job skills and competences, unit training and development etc.

   f. **Certificates and personal records.** Archive documents such as qualifications, appraisal reports, interview notes and course report etc.

7. It is worth noting that many versions of PDRs are in use across Defence. They are available in both hard copy (usually a personal folder) and/or electronic formats. The means to record and maintain personal development information can be achieved through a variety of methods with an increasing trend towards on-line career and development advice providing the tools for individuals to create their own e-portfolio.

Responsibilities

8. sS should:

   a. use this Guidance to develop their own policies on the use of PDRs.
b. provide additional guidance and support to assist people in the use and maintenance of their PDR.

c. evaluate the effectiveness of the PDR to ensure a realistic return on investment.

d. fund PDRs.
6.2 Postgraduate Education

Policy Sponsor: TESRR, CDP

Postgraduate Education (PGE) direction was revised in consultation with sS and MOD Civil Service (CS), in order to provide a pan-Defence policy to formalise the principles and processes which govern PGE. This Guidance was endorsed at the Defence Training Board on 15 Mar 12. The Terms of Reference (TORs) and Membership for the PGE Working Group can be found at Annex A. The Working Principles to support the PGE Evaluation Process – The Defence Academy’s (DefAc) Approach – can be found at Annex B.

MOD has a requirement to train and educate its military and civilian personnel for specified posts and/or roles at postgraduate level, either at universities or through professional bodies. The DOC Audit247 Report and the subsequent Postgraduate Education Delivery Paper248 outlined a requirement for a common policy for PGE. There is a requirement to scrutinise PGE to ensure that those personnel who require PGE are correctly identified and are getting the appropriate training whilst maintaining a balance of investment for MOD.

DCDS (Pers&Trg) directed249 that a new MOD PGE policy, which gives clear guidance on requirement and delivery options, was to be developed. All TLBs250 are to continue to fund PGE and play an active role in selecting delivery options, using DefAc as both an advisory body251 and a delivery body where appropriate. However, there must be an equitable and fair approach across Defence and only essential PGE is to be funded.

Scope

1. PGE is, for the purpose of this document, referred to as: Masters or doctoral studies leading to a full or partial qualification i.e. all education at Level 7 or above on the Quality Assurance Agency (QAA)252 Framework for Higher Education Qualifications in England, Wales and Northern Ireland, but it also can include certificates and diplomas which are taught to a more academically demanding standard than undergraduate certificates and diplomas.

2. This PGE Guidance applies to all members of the Armed Forces (Regular and including Reservists undertaking PGE as part of their military commitment) and MOD CS for whom PGE is required. The provision of PGE, which meets the criteria set out in this paper, is the responsibility of the sponsors. PGE funded through Enhanced Learning Credits is out of scope.

3. This Guidance does not cover activities sponsored by the Defence Science and Technology (DST) programme, designed to deliver MOD’s research requirements and support the development of appropriate expertise for the future. Direction for DST is provided by the Chief Scientific Adviser, supported by the Research and Development Board and DST Strategy, with the Defence Science and Technology Research Programme Office.

246 Training Education, Skills and Resettlement, part of Chief of Defence People, 6th Floor, MOD Main Building.
247 DOC Audit 2/10.
248 Postgraduate Education Delivery Paper 20110727.
249 D/TESSR/01.06.03.06 20110901. Now known as CDP.
250 JFC TLB may delegate this responsibility to HLBs as appropriate.
251 2nd DTB (22 Mar 11) and the DOC Audit 2/10 both stated that DA should: ‘fill an essential role as broker in sourcing delivery options for PGE’.
252 http://www.qaa.ac.uk/academic_infrastructure/FHEQ/EWNI08/default.asp.
leading on formulation and procurement of the programme, including that delivered via the university sector.

**Aim**

4. To provide a Defence Guidance to formalise the principles and processes which govern PGE.

**Role**

5. PGE remains one of the delivery mechanisms that might be considered in providing a VfM solution to meeting a Defence T&E requirement. A PGE solution may be required to meet role specific pre-employment or external licensing requirements. There is also a requirement for PGE to provide the strategic thinking skills to enable individuals to operate in an uncertain, complex and ambiguous environment\(^\text{253}\). Where this requirement is applicable and the solution or part thereof is a PGE intervention, then it must be recorded.

**Requirement**

6. PGE will only be funded where it is judged essential to meet a clearly defined Defence or sS requirement. PGE qualifications may be post related for legal or licensing reasons. PGE may also be essential when specific skills are mandated and gained as pre-employment training (PET). The benefits of postgraduate study vary in terms of their function and intended outcome and these are to be scrutinised to ensure best VfM and VfT\(^\text{254}\). PGE falls into two brackets:

   a. **Essential skills or knowledge.** Skills and or knowledge that are required for the post which is most effectively (VfM) delivered by a PGE intervention. This includes those roles where a qualification is required as a licence to practise, for legal reasons or where no other training exists. Where PGE is essential it should be annotated on the job specification and considered as PET.

   b. **Essential Attributes.** Where there are key benefits to Defence Outputs in developing attributes through PGE under one or more of the following categories:

      (1) PGE to enable support to the Defence contribution to UK influence to help deliver the Government’s Foreign Policy and Defence Goals.

      (2) To develop specialist business knowledge/skills required within Defence and sS cadres to create and sustain its ‘agile edge’ and underpin current and future capability delivery.

      (3) To develop the ability to critically appraise and analyse problems to create innovative solutions and maintain the Intellectual Edge.

      (4) Where in-house development cannot provide the required level of Continuing Professional Development\(^\text{255}\) for that career field or specialism.

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\(^{253}\) Individuals must be able to work within Defence, Government and the International Community. There is also a need to be able to network intellectually at the higher level, with colleagues across Government or in civil industry, and internationally in Defence - *Enhancing Strategic Capability Study Final Report (Revised)* – 25 Aug 11.

\(^{254}\) [www.hepi.ac.uk](http://www.hepi.ac.uk)

\(^{255}\) For some specialisms, the criteria will be set by the professional body.
Governance

7. The following MOD organisations have responsibility for PGE:

a. **TESRRR.** The responsibility for the ownership and maintenance of PGE Guidance resides with TESRR.

b. **Sponsors.** The sponsors of military PGE requirements should be identified by sS Commands. PGE relating to professional skills will be sponsored by the MOD Skills Champion for that professional area. The TESRR Policy and Assurance Group (TESRRRPAG) is to be kept informed of any change in this requirement.

c. **DefAc.** DefAc is a main provider of PGE and has significant expertise in delivery option development, which should be exploited when considering T&E options that may be delivered by a PGE route. DefAc is also a Training Delivery Authority in its own right for certain types of PGE.

d. **The Surgeon General (SG).** Due to the unique training requirements for Defence Medical Services (DMS) personnel, in terms of mandated professional standards and qualifications, SG, through the Defence Postgraduate Medical Deanery (DPMD), will advise on the requirement and delivery options for healthcare related PGE courses.

e. **Postgraduate Education Working Group.** A PGE Working Group, chaired by DefAc and its members comprising sS Commands, JFC, DE&S and SG will convene biannually or more often if required, to progress PGE. DefAc will undertake the Secretariat role and act in an advisory capacity. With greater PGE visibility, DefAc will be able to give advice and offer suggestions for alternative provision where overlap exists for better VfM/VfT within current training provision. Terms of Reference are at Annex A.

Sourcing PGE

8. DefAc should be engaged as part of the development of a cost effective and coherent delivery solution. Where sponsors believe DefAc cannot provide T&E, they should consult DefAc for guidance on options for the most cost effective delivery option. As per para 7d, SG will determine this for healthcare T&E. In consultation with TLBs, where there is overlap or replication in training and where there is scope for greater efficiency in provision, opportunities to reduce costs should be taken. DefAc will provide a forum to enhance provision to suit Defence’s needs and is to provide the following support to PGE:

a. To enhance visibility of all Defence PGE, DefAc should have an overview of all PGE. TLBs are to maintain up to date PGE supplier lists to which DefAc is to have access.

b. Once a requirement for PGE has been established, DefAc is to be engaged to ascertain whether they can contribute to the Sponsors’ Option Analysis. DefAc considers a new requirement to be the development of a new course or an addition to an existing DefAc delivered course such as a part-time option that is not currently

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256 Healthcare is defined as medical, dental, AHP and veterinary.
257 PGE Delivery Paper 20112707.
available. Delaying the provision of a delivery intervention can be costly, hence DefAc should be consulted early. DefAc aims to respond within four working weeks.

c. DefAc is to identify a range of possible PGE suppliers and advise a recommended option for each proposed PGE occurrence.

d. A list of those institutions currently being used for courses will be reviewed annually and amended as the requirement changes. This list may be managed through a preferred suppliers list, admission onto which will be subject to Defence Contractual Policies.

9. DefAc will also act in an advisory capacity for all (less healthcare) PGE or alternative suppliers in order to better meet MOD’s needs. Criteria for assessing alternative suppliers are:

a. quality of the intervention.

b. opportunities for customer leverage.

c. economies of scale.

d. exploitation of VfT and VfM for Defence principles.

Management

10. The wide range of PGE needs to be effectively managed in accordance with the following key principles:

a. There should be a clear and auditable mechanism for defining requirements and detailing how that requirement is to be met through a PGE intervention.

b. There should also be a clear auditable trail to maintain and monitor the mechanism for delivery in order to assure VfM.

c. All PGE requirements should be reviewed every three years to confirm the requirement and to ensure that the current intervention continues to meet that requirement.

11. **Sponsors.** Sponsors are to identify the requirement for T&E which is best met through a PGE intervention and categorise it as either PET or Continuing Professional Development, in order to deliver wider intellectual development or other essential attribute requirements. The mechanism for PGE is as follows:

a. Sponsors should critique job specifications and establish which posts are mandated as requiring PGE for essential skills or knowledge as PET.

b. The learning outcomes that PGE is expected to deliver, together with underpinning criteria, must be clearly outlined by the Sponsor. These should include the business/operational goals that need to be achieved and the attributes that are required from the selected individual. If the attributes gained have specific application or benefit in a given role, the relevant job specification should also show this.
c. On completion, it is the responsibility of the sponsor to ensure that the qualification and/or competences are recorded on JPA or HRMS within three months of the qualification being awarded.

d. Sponsors are to maintain an up-to-date supplier list of all PGE.

12. **Individuals.**

a. In agreement with the sponsor, individuals selected for PGE should be aware of the requirement for the potential to specialise in the field with which the qualification is linked, in line with Service needs.

b. Individuals identified for PGE should have their careers managed and guided to gain maximum benefit from the PGE. Considerations for career management of specialisations should be made on selection of PGE candidates, with a preference to maintain specialist skills in particular career streams, where allowed, by sS career management policies. The intended career plan may subsequently be changed to accommodate the needs of the Service.

c. DMS personnel will be advised by their career managers and SMEs. Application is to be in accordance with DPMD policy for PGE.

13. **Return of Service.** Sponsors and MOD Skills Champions should determine the criteria for the completion of the qualification. This will include time frames for completion of modules and any dissertation or research work. The individual should be conversant with these criteria.

14. There should be an emphasis on making better long term use of PGE training to reduce costs and the Return of Service (RoS) should be maximised. The Sponsor or MOD Skills Champion must stipulate the RoS required to amortise the cost of training iaw the tri-Service policy on RoS and MOD CS policy; this will normally be 18 months for a part-time course and 3 years for a full-time Masters course.

15. **TLB.** TLBs will be responsible for the funding of PGE and deciding on the delivery option. External Validation of PGE is to be carried out by Sponsors or MOD Skills Champions within 18 months of completion of the PGE. Validation reports are to be copied to DefAc for visibility of appropriate courses for MOD purposes, within a month of the validation taking place. Sponsors and MOD Skills Champions will carry the risk if validations are not conducted and recorded within the prescribed timeframe.

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258 JSP 950: Medical Policy, Leaflet 4-6-3.
259 2013DIN01-219 - Tri-Service Policy for Training Return of Service (RoS).
260 2013DIN01-098 - Undertaking to repay expenses incurred during external training or adult further education courses.
16. **Point of contact.** For routine queries and assistance regarding this Guidance, contact:

| Defence Academy | Registrar Postgraduate Programmes, Training & Education  
| Rm 1014  
| Heaviside Building  
| Defence Academy Headquarters  
| Defence Academy, Shrivenham  
| SN6 8LA  
| Tel: (Mil) 96161 5922 (Civ) 01793 785922  
| [PGProgs.hq@defenceacademy.mod.uk](mailto:PGProgs.hq@defenceacademy.mod.uk) |

**Annexes**

POSTGRADUATE EDUCATION WORKING GROUP – TERMS OF REFERENCE AND MEMBERSHIP

Terms of Reference

1. The PGE Working Group (WG) is the forum for sS and MOD CS to review and progress Higher Education engagement across Defence. It will provide the forum for stakeholders to discuss the delivery of Postgraduate Education with DefAc acting as the Intelligent Provider providing an overview, advice and guidance. It will provide a mechanism to ensure that PGE interventions meet business requirements and are consistent with Defence policies.

Tasking Authority

2. The PGE WG will report to TESRRR PAG.

Membership

3. Membership of the WG includes:

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<tr>
<th>Role</th>
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<tr>
<td>Chair</td>
<td>Dep Hd TE&amp;C, DefAc</td>
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<tr>
<td>NCHQ</td>
<td>Representative</td>
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<tr>
<td>Army HQ</td>
<td>Representative</td>
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<td>Air Command</td>
<td>Representative</td>
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<td>JFC</td>
<td>Representative, plus SG representative</td>
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<td>MOD CS (HRD)</td>
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<td>DE&amp;S</td>
<td>Representative</td>
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<td>Secretary</td>
<td>DefAc</td>
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Meeting Frequency

4. The WG will meet biannually and the majority of work will be completed out of committee.

Responsibilities

5. The WG is to:

a. advise and assist in maintaining PGE policies which take into account the differing demands of the Maritime, Land, Air and CS environments.

b. examine the opportunity for improved VfM through alignment of PGE between the Commands/TLBs.

c. act as a forum for advice and guidance on PGE, and where necessary, forward any issues that cannot be dealt with at this meeting to TESRRR PAG.
d. provide an annual progress report to the spring meeting of TESRRR PAG.

e. act as a forum for the development of best practice to meet the needs of the Commands/TLBs.

f. inform considerations on whether the current methods of delivery for external PGE offer the best VfM to the Customer and Defence.

g. where necessary, re-focus the delivery of PGE to better align with Defence needs.

h. with advice from DefAc as the Intelligent Provider, inform the coordination of PGE to avoid duplication and gaps in capability.

i. sponsor the development of PGE Guidance to meet customer requirements.
Key Principles

1. The Principles for Higher Education (HE) Engagement by MOD were agreed by the Defence Training Board in March 2012. The aim of the Principles was to drive greater coherence in MOD’s engagement with the HE Sector with a view to realising better value for Defence. Two of the key principles are that:

   a. DefAc should coordinate and review Defence engagement with external HE providers, including individual Higher Education Institutions (HEIs).

   b. Defence should maximise the return on MOD’s investment in KCL and Cranfield University partnerships to avoid ‘paying twice’ by sending personnel for PGE at other institutions (unless KCL/CU cannot provide or there are other tangible benefits).

2. In taking on this coordination role for Defence, DefAc adopts the following principles to underpin its approach:

   a. DefAc recognises that sS and SG already have in place specific arrangements/contracts with HEIs which work well and meet their needs.

   b. It is not DefAc’s intention to interfere with these arrangements where they continue to meet that need and offer VfM.

   c. Where an enabling contract with an HEI comes up for renewal and requires Cabinet Office approval beforehand, DefAc should be consulted about whether their internal providers (Cranfield and KCL) or another HEI can offer PGE that matches the requirement at better value.

   d. Where DefAc believes that an alternative arrangement (provided through KCL, Cranfield or another HEI) may offer a solution which matches the requirement and is better value for Defence, it will offer the proposal for consideration, although sS will be under no obligation to accept the proposal, but they should provide a clear reason for not doing so.

   e. Where sS or MOD CS wish DefAc to consider putting a new PGE course onto DefAc’s portfolio, they should complete an Adoption Proforma, and provide a Statement of Trained Requirement in accordance with the guidance at: [How do Customers request New Training and Education Requirements? – Defence Academy of the United Kingdom]

   f. DefAc will oversee MOD engagement with HEIs through:

      (1) maintaining the PGE Supplier list.
(2) monitoring developments in respect of new/emerging PGE opportunities and liaising with HEIs as appropriate;

(3) working closely with Cranfield & KCL to assess options for meeting any future PGE requirements;

(4) maintaining close liaison with sS through face-to-face meetings, phone calls and email.

(5) chairing and undertaking the Secretariat role to the PGE Working Group comprising sS Commands, JFC, DE&S and SG, to review HE engagement across Defence and discuss options for developing and delivering effective solutions for meeting PGE requirements.

The PGE Evaluation Process

3. The PGE Evaluation process relating to a new PGE opportunity will work as follows:

   a. DefAc receives details about a new PGE opportunity (whether as a result of a direct approach from an HEI or via Head Office, sS or MOD CS).

   b. DefAc conducts an assessment of the new PGE opportunity by reviewing it against a comparative course at other HEIs (including KCL/Cranfield) using the following criteria:

      (1) Course objectives/learning outcomes.

      (2) Location.

      (3) Cost.

      (4) Delivery method (full-time/part-time/blended learning).

      (5) Scope for assessments and dissertation topic to be linked to work undertaken in MOD.

      (6) Faculty and Advisory Board members.

      (7) Research – the University’s reputation for research excellence amongst its peers.

      (8) International outlook – staff and students.

      (9) Citations – research influence.

   c. DefAc report findings to the PGE Working Group members out of committee.

   d. sS and MOD CS review new PGE opportunity and identify whether they have a requirement, and advise DefAc, through PGE Working Group forum on how they wish to proceed.
e. No action required or new requirement taken forward by the New Requirements Cell through Commercial, DefAc.