Introduction. NATO Concept Development and Experimentation (CD&E) can be described as two separate, but mutually supporting activities that lead to Transformation in NATO; however, the combination of both creates a powerful tool to support Transformation. In order to standardise and communicate NATO policy and the process for CD&E, NATO uses the CD&E Handbook to guide all NATO CD&E activities. This information sheet provides a summary of some of the key definitions extracted from the handbook.

What is a Concept? In simple terms, a Concept equates to an idea for solving a problem. Within the context of NATO, the problem often represents an unfulfilled military capability requirement or the need to improve an existing capability through technological or organisational innovation.

NATO defines a concept as:

“A notion or statement of an idea, expressing how something might be done or accomplished, that may lead to an accepted procedure” (AAP-6)

A concept represents the ‘free thinking mechanisms’ which promote transformation in NATO. Therefore a NATO Concept should provide and characterise a solution to a specific shortfall or gap through an appropriate means of justification i.e. analysis, experimentation, exercises, and/or lessons identified. Hence, an amplification of the AAP-6 definition, the NATO agreed definition for CD&E purposes is:

“A solution-oriented transformational idea that addresses a capability shortfall or gap.” (MC 0583)

What isn’t a Concept? A concept is not:

- A modification to existing policy or minor incremental change to one of the components of a capability i.e. DOTMLPFI1.
- An improvement or simple alteration to a process or Standard Operating Procedure.
- A Concept of Operations (CONOPS). A CONOPS does not address capability oriented transformational ideas and therefore, should not be perceived as synonymous with an NATO Concept.

What is an Experiment? An experiment is a controlled and directed activity designed to discover new information about a concept, test a hypothesis, or validate a solution. Experimentation may consist of a series of related experiments. There are three broad types of experimentation: Discovery, Hypothesis Testing and Validation.

Discovery experiments introduce novel systems, concepts, organisational structures, technologies, or other elements to a setting where their use can be observed and catalogued. Discovery experiments are designed to generate a hypothesis and to test new concepts, ideas and technologies with potential for further development.

Hypothesis Testing experiments advance knowledge by 1) seeking to show relationships between variables in specific hypotheses, 2) discovering their limiting conditions, or 3) testing whole theories or observable hypotheses derived from such theories.

Validation experiments provide the final demonstrated evidence of whether or not the prototype capability can operate within the operational theatre and improve operational effectiveness and/or efficiency.

What isn’t an Experiment? An experiment is not:

- Research and Development. I.e. planned activity with fixed end state to discover new knowledge about products, processes, and services.
- Test and Evaluation. I.e. planned activity designed to obtain information about the state of a projected system leading to a provision of advice or support for a decision regarding that system.
- Long term studies. I.e. passive, primarily observations without manipulation of the data.

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1 Doctrine, Organisation, Training, materiel, Leadership, Personnel, Facilities, Interoperability