Evolving to Effects Based Operations

Mike Carpenter
Director Mitre Langley
Overview

- Introduction
- Historical Perspective
- Why EBO Now?
- Doctrinal Implications
“An effects-based approach is one where operations against enemy systems are planned, executed, and assessed in order to achieve specific effects that contribute directly to desired military and political outcomes.”

AFDC White Paper
March 2004
### Historical Perspective

- Alexander
- Frederick
- Napoleon
- Civil War
- WW I
- WW II
- Vietnam
- Falklands
- Desert Storm
- Allied Force
- Enduring Freedom
- Iraqi Freedom

#### EBO

- Maneuver
- Precision
- Information

#### Attrition
What’s New in EBO

One Could Argue *Nothing*, but

EBO Offers

- A more comprehensive mental model
- A Systematic Approach
- More Emphasis and Rigor
- Expands Traditional Solution Space
Why EBO Now?

• Nature of Conflict
• Advanced Capabilities
  • Precision
  • Penetration/Stealth
  • Geo-location
  • Info Ops/Psy Ops
  • Space Ops
  • Sensors
  • Analysis
  • Deception
  • C2 Connectivity
• Expectations
• Media
EBO can be applied at any level, even in the absence of an effects based approach at any other level.
From Theory to Application

- Direct/Indirect Effects
- Functional/Systemic
- Cascading/Cumulative
- Sequential/Parallel
- Intended/Unintended
- Complex Theory
- Chaos Theory
- Causal Links
- Complex Adaptive Systems
- Probabilistic Models
- Decision Aids
- ...

- Strategic
- Operational
- Tactical
- Doctrine
- TTPs
- Training
- Procedures
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Total EBO Environment

Coalition National

US National

Gov Agencies

CTF

NGOs

CFACC
CFLCC
CMFCC
Other

Theoretical Tolerance

Strategic

Operational

Tactical
Enablers and Obstacles

Enablers
- Emphasis on Joint/Coalition
- Network centric Ops
- Expectations

Obstacles
- Theoretical Complexity
- No agreed to taxonomy
- Constraints/Restraints
- Inconsistent Application

Biggest Challenge: Effects Based Assessment
Doctrinal Evolution

- Physical Effects
- No Explicit Target Linkage

- Links targets through “Strategy-to-Task"

- Considers Full Range of Possible Effects
- Explicitly Considers Enemy Reactions/Adaptation
Doctrinal Implications

Linking Strategy to Task

JFC Mission

JFACC/CFACC Mission

Operational Objectives
(Success Indicators/MoMs)

Tactical Objectives
(MoMs)

Tactical Tasks
(Directive Statements)

JP 3-30 Figure III-6
Doctrinal Implications

Effects Based Methodology

A = Action
CL = Causal Linkage
E = Direct Effect (Condition)
O = Objective
Doctrinal Implications

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Effects Based Methodology

A → E → O

T T T T
Doctrinal Implications

Effects Based Methodology
(planner’s perspective)

Objective

Effects

Tasks

Causal Links

Effects Leading To Objective?
Success Indicators (SIs)

Assessment Strategy

Tasks Producing Desired Effects?
Measure of Performance (MOP)

MOEs

Measure of Performance
Doctrinal Implications

Linking Strategy to Task

JFC Mission

JFACC/CFACC Mission

Operational Objectives
Desired Effects and MoEs

Tactical Objectives
Desired Effects and MoEs
CFACC Example

Objective

Gain Air Superiority

Effects

Reduce C2 Effectiveness
Reduce Sortie Generation
Reduce SAM Acquisitions

Causal Links

Tasks

Jam C2 Channels
Target C2 Nodes
Target Aircraft On Fields
Target Runways/Taxiways
Target C2 Nodes
Target C2 Channels
Target Aircraft On Fields
Target Runways/Taxiways

MOEs

Assessment Strategy

Effects Leading To Objective? (SIs)

Tasks Producing Desired Effects (MOP)

Provide Weasel Escort

Conduct Fighter Sweeps
Jam SAM Radars
Target SAM Radars

Gain Air Superiority
Requisites for Applying EBO

- Correct Objectives to Achieve Desired End-State
- Appropriate MOEs that can be observed and interpreted
- Assessment Strategy and Capability
- Simple Mental Models
  - Problem/Solution/Design Space
  - DIME
  - Evolved Doctrine and Procedures
### Some Recent Conflicts

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<th>Desert Storm</th>
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T-E-O = Task, Effect, Objective
The KISS Principle Applies to EBO

“Simple, clear purpose and principles give rise to complex, intelligent behavior. Complex rules and regulations give rise to simple, stupid behavior.”

From the not-so-famous organizational theorist and entrepreneur Dee Hock
Questions

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Doctrinal Evolution

Effects-Based
- Focuses on desired effects (including objectives)
- Considers full range of possible effects
- Specifies required results between objectives & targets
- Explicitly considers enemy reactions, adaptation
- Incorporates other two approaches

Objectives-Based
- Focuses on what to attack and why
- Focuses on objectives at every level
- Includes "strategy-to-task" – all objectives linked from national level to tactical tasks
- Implies results between objectives & targets

Targets- or Inputs-Based
- Focuses on how to attack, how many sorties
- Focuses on # of sorties, ordnance delivered
- Applies at the tactical level
- Deals with physical effects
- Provides no guidance on why targets are chosen

Figure 3. Relationship Between Targeting Philosophies