The Knowledge Bridge between Operational and Training within the Army:
Knowledge reuse as a key factor of success.

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Agenda

• Introduction
• Knowledge Bridge Model
• Knowledge Management System
• Use Cases
• Conclusion
Introduction: Problem Context

- Limited Knowledge Sharing between organizations
- Knowledge redundancy and inconsistencies
- No common repository for easy access
- Lessons Learned mainly focused on Operational aspects
- No official mechanism to manage Feedback

CF/DND Corporate Knowledge

- Doctrine
- Training
- Systems e.g. LCSS

Operational Knowledge (domestic or international)

- Battle Procedure
- Decision-Action Cycle

Direction
Execution
Consideration
Decision
CF/DND Corporate Knowledge

Doctrine

Training

Systems e.g. LCSS

Knowledge Bridge

Operational Knowledge (domestic or international)

Battle Procedure

Decision-Action Cycle

Direction

Execution

Consideration

Decision
CF/DND Corporate Knowledge

Doctrine
- Keystone Doctrine
- Supporting Doctrine
- TTPs
- Aide Memoire

Training
- Individual
- Collective Training
- Theater and Mission
- Continuation

Systems e.g. LCSS
- SOPs
- Application Help

Knowledge Bridge
Operational Knowledge (domestic or international)

Battle Procedure
Decision-Action Cycle
- Direction
- Execution
- Consideration
- Decision
Knowledge Organization

Navigate

Search

Task Support
Paradigm Shift

Manage Documents

Manage Knowledge Objects
Knowledge as Knowledge Objects
(distinct objects)
Knowledge as Knowledge Objects
(contained in a structure)

Knowledge Schemas
(types of objects and relationships)

Examples

Keystone Doctrine
Operation Planning Process
Application Topics and Procedures
Operation Reports

Prescript
Process & Methods
Procedural
Factual

• Subject
• Sub-subject
• Process
• Sub-process
• Task
• Procedure
• Procedure
• Step
• Subject
• Sub-subject
• Question
• Observation
• Comment

Knowledge Structure
Relationships between Knowledge Objects

Tacit:
Exists within peoples’ memories

Explicit:
Exists within the Knowledge Base
Operational Knowledge (domestic or international)

CF/DND Corporate Knowledge

Feedback from CF/DND Personnel

Doctrine
- Keystone Doctrine
- Supporting Doctrine
- TTPs
- Aide Memoire

Training
- Individual
- Collective Training
- Theater and Mission
- Continuation

Systems e.g. LCSS
- SOPs
- Application Help

Knowledge Bridge

Operational Knowledge (domestic or international)

Battle Procedure
- Decision-Action Cycle

Direction
- Execution
- Consideration
- Decision

Feedback from CF/DND Personnel

Learning Process
Learning Perspective

- Command
  - Determine Information Requirements
- Incorporate Existing Lessons within DND Corporate Knowledge or New Activities
- Observations
  - Comments
  - Feedback
  - Documents
- Disseminate Lessons
- Identify Issues
  - Define Lessons
  - Identify Requirements
- Command Direction for Changes
Operational Knowledge (domestic or international)

Task Support

Feedback from CF/DND Personnel

Learning Process

CF/DND Corporate Knowledge

Task Support

Create Knowledge Relationships

Operational Knowledge (domestic or international)

Task Support

Access Contextual Help

Battle Procedure

Decision-Action Cycle

Direction

Execution

Consideration

Decision

Feedback from CF/DND Personnel

Learning Process

Doctrine

Keystone Doctrine

Supporting Doctrine

TTPs

Aide Memoire

Training

Individual

Collective Training

Theater and Mission

Continuation

Systems e.g. LCSS

SOPs

Application Help

Keystone Doctrine

Supporting Doctrine

TTPs

Aide Memoire

Individual

Collective Training

Theater and Mission

Continuation

SOPs

Application Help

Learning Process

Creating Knowledge Relationships

Feedback from CF/DND Personnel

Access Contextual Help

Battle Procedure

Decision-Action Cycle

Direction

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Decision

Feedback from CF/DND Personnel

Learning Process

Creating Knowledge Relationships

Feedback from CF/DND Personnel

Learning Process
Manage Relationships between Knowledge Objects within the Knowledge Base
Manage Knowledge Relationships to Reuse Knowledge

Reuse Action within KMS

- Cross-Reference
- Import
- Contextual Mapping
- Reuse Actions

USE CASE #1 and #2

USE CASE #3 and #4
USE CASES

1. Navigation
2. Search
3. Applications Help in context
4. DND Knowledge in Context

DND Knowledge

KMS

C2 Applications

C2 Knowledge Task Support
Use Case #1: Navigate through Linked Objects

Receipts Task within the OPP linked to Direction Process of the Decision Action Cycle

Orders Process of the Brigade Group Process linked or cross-referenced to Receipts Tasks of the OPP
Use Case #1: OPP description and Training Material

Click on the document to open it

OPP Training Material is cross-referenced to the OPP (description)
Use Case #1: OPP description and Training Material

The Operations Planning Process (OPP) (The Collective Estimate)
Use Case #1: TTPs and Order Templates

Orders templates are cross-referenced to the Transmit Orders of the Brigade Group TTP.
Use Case #1: TTPs and Order Templates

Orders templates are cross-referenced to the Transmit Orders of the Brigade Group TTP.
Use Case #1: TTPs and Application Help Procedures

Click on the C2 Application Procedure in order to access the Help Topic
Use Case #1: Access to Application Help

Procedure

Open Order Dialog Box

Open Order (Accessed by clicking the View button on the Orders tab)

Figure 9 Order dialog box fields and buttons

<table>
<thead>
<tr>
<th>Call-out Number</th>
<th>GUI Item</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Show Overlay</td>
<td>Displays the overlay attached to the order.</td>
</tr>
<tr>
<td>2</td>
<td>Accept</td>
<td></td>
</tr>
</tbody>
</table>
USE CASES

C2 Knowledge
Task Support

DND Knowledge

C2 Applications

DND Knowledge in Context

Navigation

Search

Applications Help in context
USE CASE #2: Search

Advanced Search

Decision Action Cycle
Find Results with: Exact Phrase Element: Any Element
Language: Any Language Domain: Any Domain
Sort Order: By Date Descending Period: From: To:

Search Criteria

What to Search
Only the following items will be returned by the search.
- Activities
- Report Structures
- Doctrine and Task Support

Select All

Search Results

Limit the Search of items within the following branches of knowledge.
- Activities
- Report Structures
- Doctrine and Task Support
- Staff Officer’s Handbook
- LCSS Training

Search Results

14 results found

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Description</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOA DEVELOPMENT.doc</td>
<td>2005-03-01</td>
<td>This is an example of an Army Process divided by objects</td>
<td>Documents &gt; Training &gt; Staff Officer's Handbook &gt; CLEFSC SDH, V1.2 MAY 06</td>
</tr>
<tr>
<td>The Formal Estimate V0</td>
<td>2005-09-06</td>
<td></td>
<td>Documents &gt; Training &gt; Staff Officer's Handbook &gt; CLEFSC SDH, V1.2 MAY 06</td>
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<td>2005-09-06</td>
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<td>TABLE OF CONTENT.doc</td>
<td>2005-07-07</td>
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<tr>
<td>ASOS 05.01.01 SE.doc</td>
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</tr>
<tr>
<td>Op ATHENA RD 1 Lessons Learned - HQ-KMN8 - Info Ops</td>
<td>2000-01-26</td>
<td>Hard copy of FOR in MS Word format.</td>
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<tr>
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<td>Op ATHENA R01 Lessons Learned</td>
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<tr>
<td>Op ATHENA R01 1STAR lessons learned</td>
<td>2004-12-07</td>
<td>1STAR lessons learned on Airfield</td>
<td>Documents &gt; Reference &gt; Op ATHENA R01 1STAR lessons learned</td>
</tr>
<tr>
<td>Op ATHENA R01 1STAR Lessons Learned</td>
<td>2004-11-05</td>
<td></td>
<td>Documents &gt; Reference &gt; Op ATHENA R01 1STAR Lessons Learned</td>
</tr>
<tr>
<td>1 - Unit/Land Component Units</td>
<td>2003-12-06</td>
<td>2 PELCI At the unit level, coordination was very good and exte...</td>
<td>Activities &gt; Operations &gt; Domestic Operations &gt; (Dona) Security Operation in Air</td>
</tr>
</tbody>
</table>
USE CASE #2: Search Results

Access the object through the Web

Select the object from the search results list: Observation of a Unit
USE CASES

DND Knowledge

C2 Knowledge Task Support

C2 Applications

Applications Help in context

DND Knowledge in Context

Navigation

Search

1

2

3

4
USE CASE #3: C2 Application Help in context

C2 Knowledge Task Support

C2 Applications

Applications Help in context

1. Transmit orders within an Application Window or Form
2. Click F1
3. The Topic “How to transmit an order using this Application” is presented
USE CASE #4: Access DND Knowledge in Context

1. Transmit orders within an Application Window or Form
2. Click Shift F1
3. Select DND Knowledge
**USE CASE #4**

**C2 Applications**

1. Transmit orders within an Application Window or Form
2. Click Shift F1
3. Select DND Knowledge

**DND Knowledge in Context**

4. KMS Contextual Page Open
5. Click On "Receipt of Orders"
6. KMS Open to "Receipt of Orders"

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**C2 Knowledge Task Support**

- Transmit orders within an Application Window or Form
- Click Shift F1
- Select DND Knowledge
- KMS Contextual Page Open
- Click On "Receipt of Orders"
- KMS Open to "Receipt of Orders"
Conclusion

The Knowledge Bridge between the operational and training worlds enables:

– Learning from Experiences
– Rapid Feedback
– Task support Enhanced by Knowledge Reuse
– Knowledge Access