Stumbling into Design:
Teaching Operational Warfare for Small Professional Military Education
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Introduction
Design is an approach for thinking through complex problems. It is employed in a variety of contexts including product design, architecture, medical services, and business strategy, however, growing numbers of militaries are employing it:
- Israel: Systemic Operational Design
- US: Army Design Methodology
- Australia: Complex Adaptive Operations
- NATO: Alternative Analysis
- United Kingdom
- Netherlands

Methodology
Most design techniques employ similar models

- What is your problem? What is the environment look like?
- What are the goals?
- How do you interact with the environment?
- What should we learn?
- How do we change what we are doing?

The “Environmental Frame”
Design is a process in which the environment, problem space, and possible solutions are considered not in a step by step fashion, but as a whole. In the first iteration, however, initial solutions (or proto-types) are heavily reliant on poorly understood assumptions about the environment. These included the problematic nature of teaching strategy and operations to small militaries who rarely operate at these levels, and bring few capabilities to large military projects. The typical separation of strategic objectives from operational ones. The civilian status of the course developer also complicated this process. Initially, the solution was to help facilitate student learning. The default template text offers a good starting point. Follow a “how to do” approach, which explored epistemological problems militaries were confronting in complex spaces such as Afghanistan and Iraq. The course went through a subsequent iteration where it proposed “Design Thinking” as a possible approach to dealing with such complexity, and later added a one week exercise which explicitly explored the practicalities of Design through an assigned problem. Subsequently, tutorials were added to assist students in the exercise, but these iterations also served to confuse students as to what the objectives of the course were. The last iteration has sought to reframe the course as an exploration of operations in complex battlespace, but a new approach may be warranted.

NSP Design Drawing: Senior PME Visualization 2015

Objectives
- The operational planning process traditionally taught at staff colleges is a linear approach which doesn’t work well in complex problems
- Design valuable approach for small militaries given the lack of control they have over the environment.
- The historical development of military activity demonstrates growing structural complexity.
- Structural complexity is compounded by increasing interactive complexity as stakeholders multiply

Results: course design evolution
The evolution of the course began with the redesign of an obsolete senior PME course on Operational Doctrine.
This was converted from a “how to do” to a “how to think about” approach, which explored epistemological problems militaries were confronting in complex spaces such as Afghanistan and Iraq. The course went through a subsequent iteration where it proposed “Design Thinking” as a possible approach to dealing with such complexity, and later added a one week exercise which explicitly explored the practicalities of Design through an assigned problem. Subsequently, tutorials were added to assist students in the exercise, but these iterations also served to confuse students as to what the objectives of the course were. The last iteration has sought to reframe the course as an exploration of operations in complex battlespace, but a new approach may be warranted.

Conclusions
Design has to be approached carefully. Approaches adopted directly from Business School models were unsuccessful in reaching military students, who found them juvenile. The learning objective of exploring the gaps between theory and practice are also experienced in applying design methods in the classroom: design needs to be “endogenized” properly to be appreciated. Secondly, staff capacity represents a significant bottleneck: training programmes for teaching the teacher have yet to be effectively developed, requiring significant SME support for exercises and tutorials. Finally, there are significant differences in students’ openness to Design: Majors are less risk adverse and are more open to the approach than Colonels are. It is critical to identify class champions early in the course to help facilitate student learning.

References

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Exercise Shifting Sands, 2015.


Majors discuss their findings with Operational Commander during Exercise Shifting Sands, 2015.