

Cognitive Cartography: Small Unit Readiness through Pre-deployment Priming of Mental Maps

COL James Ness, Ph.D.¹

Mr. Richard DiNinni²

Ms. Julia Kim²

**¹Department of Behavioral Sciences and Leadership, US
Military Academy, West Point, NY 10996 USA**

**²Institute of Creative Technologies
University of Southern California
Playa Vista, CA 90094**



Definitions and Presuppositions

- Cognitive:
 - An organizational construct, with that organization inferred from how a person adapts to and operates on the environment.
- Cognitive development is inseparable from the social milieu
 - Builds on the social resources provided by others
 - Builds on the intellectual tools inherited from previous generations



Training-Focused Missions

“The standing up and mentoring of indigenous armies and police – once the province of Special Forces – is now a key mission for the military as a whole.” –Secretary Gates, October 10, 2007

- May 2012: 10th MTN BDE announced as first “regionally-aligned” BDE, targeted for AFRICOM to provide “reliable supply of [small groups of] soldiers available for short, training-focused missions”
- Priority 1 Need for AFRICOM – Medical Training

Currently there is no CME for military medical providers in Burundi. Providers and staff are not required to maintain board certifications. Often medical staff will receive no monitoring or additional medical information once they leave school. The goal of the US DoD is to build capacity within African militaries. A deficit noted during our training events is that there is no follow-up or continuing education for participants. Often we return to the country to conduct training each year but different people attend. This study could help us identify a CME resource which could be used to reinforce principles and introduce up to date information to African military medical professionals. This study would assess the need for CME and potential platforms (cell phones, email, internet-based site, hard-copy materials) that could be used to deliver practical up-to-date information to military medical providers.



Medical Embedded Training Teams

- Unique frictions associated with this mission
 - Typically on TCS Orders: individuals vice cohesive teams
 - Provide a critical “hearts and minds” mission establishing Civil/Military Headwaters
 - Often form as a “Combined/Joint” team in country
 - Medicine in culture: Inter-subjectivity challenges for teach & train mission
 - Austere environments: Standard of Care dissonance



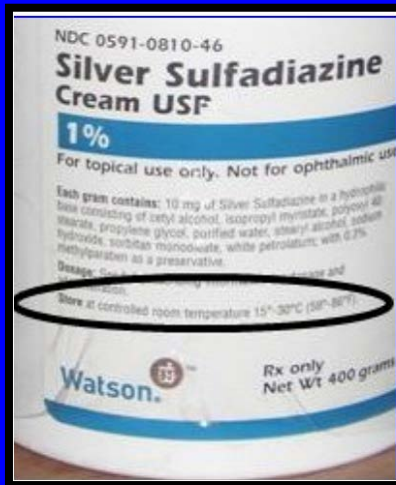
Medical Embedded Training Team



The Teams Encounter Unfamiliar Human and Physical Terrain



Teams Encounter Austere and Ineffective Infrastructure



Teams Encounter Standards of Care that are in Stark Contrast to their Medical Professional Experiences



The Proposed Tools

- Acceleration of situation awareness of deploying medical training teams
 - Prime cognitive maps so the deploying team can assimilate the blooming, buzzing confusion and quickly move from “What” to “so What” functioning.
 - Natural Terrain/Landscape
 - Urban Terrain/Facilities
 - Human Terrain
 - Beneficiaries
 - Health Care Providers
 - Bureaucracies governing access, logistics, infrastructure
 - Medicine in Culture
 - Pedagogical Approach
 - Scaffold concordant with achievable standard of care
 - Insights into competence/incompetence boundaries
 - Insights into sustainable/meaningful educational tools
 - Continuity across medical training teams
- Accelerate medical training team coordination and cohesion
 - Especially critical for combined/joint missions



Overview of Prototype Tools

- Project began May 2012
- Phase 1: Video – Delivery October 2012*
 - 3-5 minute documentary-style “webisodes” (20-30 minutes total)
 - Rapidly provide initial tool for training
 - Assessments provide input to Immersive Environment as well as revisions to video
- Phase 2: Immersive Environment – Delivery April 2014

* Contingent on support from a unit

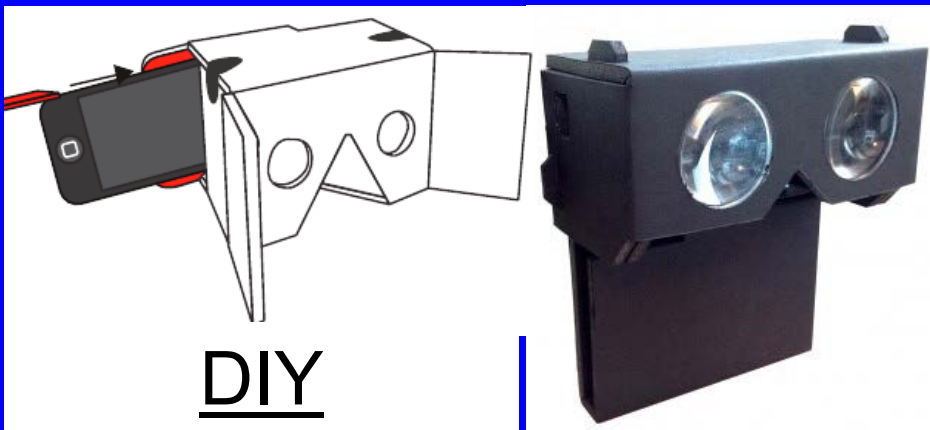


Concepts for Immersive Tool



COTS:

- Smartphone
- 3D viewer
 - \$20 on amazon
 - \$5 DIY
- Downloadable app



DIY

