First Year of Culture of Excellence

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What do you see?
Stress on the Fleet...

Individual Demands

Mission Requirements

Competing for time - how can we expect effectiveness?
How Do You Know?
SILOS OF EXCELLENCE

Sexual Assault
Suicide Prevention
Sexual Harassment
Military Equal Opportunity
Inclusion & Diversity
Domestic Violence
ONE SIZE FITS ALL
TRAINING
SAILOR'S CREED

I am a United States Sailor. I will support & defend the Constitution of the United States of America & will obey the orders of those appointed over me.

I represent the fighting spirit of the Navy & those who have gone before me to defend freedom & democracy around the world.

I proudly serve my country's Navy combat team with Honor, Courage, & Commitment.

I am committed to excellence & the fair treatment of all.
United States Navy Ethos

We are the United States Navy, our Nation's sea power – ready guardians of peace, victorious in war.

We are professional Sailors and Civilians – a diverse and agile force exemplifying the highest standards of service to our Nation, at home and abroad, at sea and ashore.

Integrity is the foundation of our conduct; respect for others is fundamental to our character; decisive leadership is crucial to our success.

We are a team, disciplined and well-prepared, committed to mission accomplishment. We do not waver in our dedication and accountability to our Shipmates and families.

We are patriots, forged by the Navy's core values of Honor, Courage and Commitment. In times of war and peace, our actions reflect our proud heritage and tradition.

We defend our Nation and prevail in the face of adversity with strength, determination, and dignity.

We are the United States Navy.
Strategic Communications & Social Marketing
Culture of Excellence

Operational Design

- Leveraging Data Analytics
- Behavior Learning Continuum
- Policies Programs Practices Processes

- Toughness
- Trust
- Connectedness

- Ready and Lethal Force
Blueprint: Human Behavior Design Model (CONOPS)

Board of Governance (BOG)
Establish Formal Collaboration and Coordination

Implementation and Continuous Improvement
- Naval Postgraduate School (Red Cell)
- Lit Reviews
- Studies
- External Executive Advisors

Outcomes and Results: “Stronger Team”
- Enhance Dignity and Respect
- Greater Trust
- Reduce Unplanned Losses
- Reduce Administrative Distractions
- Time Back (Overall Cost Savings)

Competencies
- Technical
- Personal
- Social

Feedback and Assessment
- Human Factor (TOBI)
- Wagal
- DEOCS 4.1 (climate survey)
- Max.Gov

Training/Education (Art/Science)
- Character Development
- Leader Development
- Situated Learning

Toughness of the Navy - Inclusive vice Exclusive Learning and Growth
Leveraging Data Analytics (LDA)

Reducing Institutional Risk

Understanding the “Why”
Root Cause Assessment
ID Key Protective & Risk Indicators
Common Operating Picture

Targeted Outcome: Enhance a cultural framework reflective of Navy Core Values for our Total Force team that promotes leadership and accountability while optimizing our capabilities across all warfighting functions
Leveraging Data Analytics:

- **Enhanced Understanding:**
  - Self
  - Environment

- **Federated Database:**
  - Machine Learning
  - Artificial Intelligence

- **Common Operating Picture:**
  - Systematic Trends
  - Universal Baselines
Data Warehouse

Competitive Advantage:
- Common Operating Picture
- Baselines & Trends
- Rapid Solutions & Root Cause
Getting it Right from the Start
Beliefs
Values
Trust in Team
Perceived Controls
Subjective Norms
Peer Pressure
Environmental Norms
Social Norms

Decision Crossroads
FORGED BY THE SEA

- Developmental Learning
- Skillset Building
- Muscle Memory
Policies, Programs, Practices, and Processes (P^4)

**Phase 2**
- Map HFACS onto data sources and begin development of automated translators

**Phase 3**
- Develop risk algorithms and deep learning models for real-time risk assessment

**Phase 4**
- Test and validate in operation environment

**Phase 3**
- Develop smart algorithms for supporting real-time decision-making

**Phase 2**
- Map HFIX onto interventions and begin development of decision-support tool

**Existing Navy/DoD Databases**

**Human Factors Analysis and Classification System (HFACS)**

**Performance Human Factors Data**

**Behavioral Human Factors Data**

**Mental Health Human Factors Data**

**Physical Health Human Factors Data**

**Socio/Cultural Human Factors Data**

**Real-time Risk Assessment of Unplanned Losses**

**Risk Mitigation Strategies**

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**Existing Human Factors Interventions**

**Common Ontology**
- Automated Data Fusion and Modeling

**Command Playbook**
- Real-time Decision Support

**Readiness**
Program Evaluation Model

Phase 1:
Discover Commercial off the shelf Programs that is applicable to the Navy

Phase 2:
Operationalize in short order (Sentiment part of the program)
Add assessment pre/post surveys and preliminary analysis of effectiveness

Phase 3:
Create programs and processes for peer to peer buy-in or support groups

Phase 4:
Link in feedback/assessment of change of attitudes/behaviors & longitudinal study (IPR)

Phase 5:
Put it all together and assess for scalability

Phase 6:
Roll out to the Navy
TEAM BUILDING

- Coaching
- Goal
- Collaboration
- Support
- Skill
- Solution
- Motivation

TEAM
CRMD Data Science: Exploration & Learning Process

Phase 1: Define Hypothesis to test or Prediction to be made

Phase 2: Gather data and create a federated database (governance/cleaning/dictionary)

Phase 3: Prepare Data build Schema

Phase 4: Visualize the data (Tableau)

Phase 5: Build the analytic models

Phase 6: Evaluation Model
Advantages of Smartphones

- Life-long learning: Always available
- “Study in the chow line” scenario
- Users wanted PAL3 on their devices
- Easier installation & update w/ App Stores
- Multi-Platform: Apple iOS & Android
PAL3 Project Goals

A computerized personal assistant to help a learner:

• Learn throughout their careers
• Successfully navigate career transitions
• Prevent skill decay
• Know their progress and mastery
• Adaptively find the right material at the right level
• Stay engaged: learn during free time
Mobile PAL3 Capabilities

- Emphasis on motivating learners
  - Coaching Agent: Adaptively recommending most appropriate content (Pal)
  - Goal-Oriented: Learning activities explained & coupled to learner’s goals (e.g. advancement)
  - Open learner model: learners see their mastery
  - Effort Tracking: level up, unlock customizations
  - Social Motivation: teams compete & cooperate
  - Smartphone-based: available 24/7 runs on your own device (iOS, Android)
  - Offline Mode: Download content and use on ship

- Re-Use Content: Mix existing or new resources equally well (don’t have to re-invent the wheel)

- Continuous Assessment: PAL3 models mastery as you go- don’t need to wait for scheduled exam

- Skill Decay Models: Reduce “cramming” due to higher forgetting if studying without spaced practice.

Effort: Commitment vs. Study Pace

Teams: Help Your Team Succeed
PAL3

3 factors
novelty, exploration, deficits

Personalized Recommendations

Selection

Guided Models & Simulations

Existing HTML Links & Videos

Interactive Computer Tutoring

Scores

Lifelong Learning Record

Resource Library
Summative Study Results

Score = Intercept + Student RE + Form RE + Session number FE + Session x Condition FE
Score = .451 + Random effects of test form and student - .031(Session) + .025 (Session x PAL3)

p = 0.04045
Teams of Learners

Collaborate & Compete to Learn

- Motivate learning to improve team standings

- Leverage *existing* social ties

- Weakest learners can contribute the most

- Learner Roles: Help team in different ways
  - Learn: Complete lessons
  - Teach: Help other members of team
  - Collaborate: Work with another team mate
On-the-Job Augmented Reality (AR) Aid

AR “Hands-On” Coaching

Fundamental Coursework

- PAL3 as Study Aid
- Identify training that predicts on-the-job skills

Walkthroughs, Part ID, Warnings, Q&A, Tech Manuals

Follow-Up Lessons

- AAR to reflect on issues hit in AR or a simulation
- Targeted lessons to fill in gaps in skills

- Recommend AR apps by: 1) skills needed & 2) location
- AR sends learner records
Study toward PQS Requirements as a Team

- Form learning teams in PAL3 during training
- Same skill needs but might be different assignments
- Teams ideally co-located

- Complete goals & topics for readiness toward PQS
- Build up peer learning
- Show progress toward standards

- Revise teams to join a division/dept. team
- Same specializations but on different levels of skills
- Compete for readiness vs. divisions on other ships
LDA:
Are we collecting the right data?

- Fully understand the needs of Sailors and provide support by defining the problem using known tools, such as human factors analyses, and by leveraging predictive data analytics.

Exploration & Learning Process
1. Define hypothesis or prediction
2. Gather data & create federated database
3. Prepare data & build scheme
4. Build the analytic model
5. Visualize data
6. Evaluate model

BLC:
Are we asking the right questions?

- Identify primary prevention touch points for behavior learning across the career continuum (from recruitment to transition), to make the right choice the easiest choice.

P^4:
Are we performing at our theoretical limit?

- Implement evidence-based P^4 that address the full spectrum of behaviors.
- Strive for continuous and balanced P^4, supported and championed by Navy leadership.

Enhanced Understanding
Self + Environment

- Human Factors Intervention Matrix
  - Environmental
  - Task
  - Technological
  - Individual/Team
  - Supervisory/Organizational

Federated Database
Machine Learning | Artificial Intelligence

Decision Crossroads
- Values
- Beliefs
- Decision
- Incentives
- Social Norms
- Subjective Norms

Common Operating Picture
Systematic Trends | Universal baselines

Current Sprint
- Running pilots using the evidence-based Kognito platform to test the feasibility of avatar-based trainings. Trainings can be adapted for use with Sailors at key career stages and life changes or for other behavioral health issues that may surface.
- Exploration of Executive Coaching approaches that are tailorable and scalable for Navy environments.

Current Sprint
- The Rational-Thinking and Emotional-Regulation through Problem-Solving (REPS) Training promotes mental fitness by addressing problematic thoughts, emotions, and behaviors.
- One Love Programs builds healthy relationships skills and is hypothesized to also influence risk/protective factors for organizational culture/climate. A randomized control trial and feasibility assessment are being completed.
Excellence
Just Ahead