The Future of Air Force Education and Training

an

Advance Planning Briefing to Industry

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2009 USAF Advance Planning Briefing to Industry (APBI), 12 May 2009, Wright Patterson AFB, OH
“Technological change is accelerating. To accomplish the Air Force mission in an environment of accelerating change, we will need to recruit, train, and educate Airmen with agile minds and cutting edge skills.”

STEPHEN R. LORENZ
General, USAF
Commander, Air Education and Training Command

“Delivering unrivaled Air, Space and Cyberspace Education and Training”
Overview

Virtual Training

Learning

STORAGE

Data

Change

Programs

Management

Knowledge

Projects

Implementation

Instructional

Continuous

Virtual

Future

Systems

Studies

Education

Distance

Mobile

Wisdom

24/7 Access

Air Force

Airmen

Information

Millennials

Technology

Gaming

Education

Distance

Today...

Tomorrow

"White Paper"

Develop America's Airmen Today... for Tomorrow

Knowledge is power!

The First Command
Today’s Cyber Teenager – Tomorrow’s Airman

- Workstation: Intel Dual Core; Broadband
- Cell/Camera Phone Web/IM
- Network Playstation 3 Multiplayer Tactical Trainer (US Navy Seals)
- Wireless Laptop: Massively Multiplayer Gaming/Immersive Virtual Environments Voice over IP
- Video Conferencing WebCam
- Federated Search Personalized News
- Reputation Management (EBay)
- Collaboration (Netmeeting)
- Wireless PDA
- Email
- TIVO PVR
- 80 Hrs DirectTV Sat
- MP3 Player: Portable Digital Library
- Google Labs

Develop America’s Airmen Today ... for Tomorrow

The First Command
Technology will “not” be the limiting factor
Future Learning Concepts

Learner centric construct
- Knowledge Management
- Continuous Learning
- Precision Learning

Enabled with:
- Learner-centric
- Knowledge base
- Knowledge on demand
- Cognitive/affective domains
- Live, virtual, constructive mix
- Knowledge-enabled Airmen
Challenges

- **Transforming** the learning environment for the learners of tomorrow
  - Defining the new knowledge *concepts* for learning
  - Defining the new *technologies* required
  - Defining how to *organize* for effective learning
- Increasing *effectiveness*
- Increasing *efficiency*
- **Central Enterprise Knowledge Storage**
- **Bandwidth to access video and virtual environments**

Greatness depends on courage in the face of challenges
Challenges

• **Secure access to content**
• Meeting *generational needs* by transforming the learning experience
• Focusing *learning investments* – budget, manpower and POM
• Systematically *inserting technology*
• Changing the culture
• Managing change

The Air Force must become an agile, knowledge-enabled organization in order to maintain global vigilance, global reach and global power.
Way Ahead

• Focus Areas
  • Instructional Design
  • Knowledge Systems
  • Virtual Environments
  • Mobile Learning
  • Simulations and Gaming

• Initiatives
  • Support Efforts
  • Study Efforts
  • Projects and Programs

• Advanced Learning Technology Demonstrations (ALTD)

“The best thing about the future is that it comes only one day at a time.”  Abraham Lincoln
Instruction for the Future

- Initiating “Instruction for the Future” project
- Global courseware – learning “anywhere, anytime”
- Formal and informal
- Synchronous and asynchronous
- Collocated and distributed
- Continuous learning and precision learning
Planned Projects and Programs

- Advanced Pilot Training (APT)
- Spatial Disorientation Trainer
- Credible Online Testing
- Mobile Learning
- Professional (Social) Networking
- “Little DMO” - Desktop LVC
- Air Force Game (TBD)
- MyBase – Integrated Virtual Worlds
Advanced Pilot Training (APT)

- T-38 training FoS is currently expected to be the Advanced Trainer for the Fighter/Bomber (F/B) APT track until at least 2017
- Tailored to support USAF missions identified in the Jan 2009 QDR
  - Basic aircraft control,
  - Formation, instrument and navigation,
  - Advanced air-to-air, advanced air-to-ground, and advanced crew/cockpit resource management
- APT will be an Integrated Family of Systems (FoS)
  - Will utilize a broad range of ground (simulators and CBT) and flight training systems
  - Right balance of virtual and live
Spatial Disorientation Trainer

• Realistic Spatial Disorientation is a missing capability for AF pilots
• Need enough range of motion to replicate common physiological illusions and enough visual stimulation to simulate “normal” flying illusions
• Expect a basic and advanced capability
Credible Online Testing

- Develop a methodology for conducting online testing which has a reasonable level of integrity and credibility to guarantee the test is taken by the intended subject without external assistance.
- With more distributed learning, the requirement to administer tests “anytime/anywhere” will necessitate the development of methods to verify the recipient
Mobile Learning (mLearning)

- mLearning project for AFRS recruiters and recruits
- Deliver learning whenever and wherever needed
- Ensure access to Knowledge Base information
- Enable quick, informal learning “on the go”
- Enable communication and collaboration
- Deliver learning content through videos, simulations and text messaging
- Matches learner needs
Professional Networking and Social Learning

Web 2.0
Attributes
Integrated technology

Search
Social interaction

Links
Content creation

Authoring
“Wisdom of Crowds”

Tags

Examples

Extensions

Signals

Aristotle

Social Networks

Web 2.0
Search
Links
Authoring
Tags
Extensions
Signals

Examples

YouTube
MySpace
Facebook
Twitter
Flickr
Moodle
“Little DMO”

- SUPT Pattern Trainer
  - Initially networked at one base
  - Eventually linked at all SUPT bases
Do We Need an AF Game?

AMERICA'S ARMY
PERSONNEL JACKET
TRAINING
DEPLOYMENT

vs

U.S. AIR FORCE
GAMES & EXTRAS

NASARC
ECHO ZULU

The First Command
MyBase – Virtual Worlds

• Today
  • MyBase Public in Second Life
  • MyBase E & T in Qwaq

• Tomorrow
  • MyBase Medical
  • MyBase BMT Experience

• Future
  • MyBase Full Immersion Integrated VW
    • Public
    • Education and Training
    • Operations
Air Force 2.0

• World-class learning organization
• Operating with learning concepts
  • Knowledge Management
  • Continuous Learning
  • Precision Learning
• Innovative, agile, flexible, adaptive
• Enabled by new technologies
  • Gaming and simulations
  • Distributed and mobile learning
  • Web 2.0 capabilities
• Unrivaled education and training!
The Future is Upon Us

Captain Lance P. Sijan Leadership Range
Operation Relief Worker Rescue Challenge (Set Design)
“Excellence in Learning”


“Delivering unrivaled Air, Space and Cyberspace Education and Training”
Air Education and Training Command

“The First Command”