Interoperable Performance Assessment to Support Adaptive Learning

Tiffany Poeppelman, Aptima, Inc.
Mike Hruska, Problem Solutions

Human Systems Conference, Washington, D.C.
February 4, 2014
Why the need for Interoperable Performance Assessment (IPA)?

- Training adaptation is valuable
- Cost of adaptation is high
- Data collection and storage is siloed
- Content interoperability is evolving
- Data is becoming more readily available
- Intersystem training adaptability is increasing
What is Interoperable Performance Assessment (IPA)?

- Method of *uniformly defining and describing experience and context to assess learning and performance*

- Ability to adapt training *across a variety of environments, systems, and modalities*

- Observe, assess, evaluate, or assert performance by systems or observers
Research Programs: SCALE and GIFT

- Soldier-Centered Army Learning Environment (SCALE)
  - Provides a data-driven architecture to support tailored training
  - Developed by Army Research Laboratory (ARL) and Army Research Institute (ARI)

- Generalized Intelligent Framework for Tutoring (GIFT)
  - Modular framework to support the instantiation of adaptive tutoring capabilities
  - Developed by Army Research Laboratory (ARL)
Solider Performance Planner (SP²)

- **What is SP2?**
  - Software tool for collecting and contextualizing Soldier performance from web data sources
  - Allows the user to interface and interact with data in a Learner Record Store (LRS)

- **What does it do?**
  - Tracks soldier performance data from multiple data sources
  - Allows a person to evaluate, assess, or assert learner performance
  - Synchronizes various web services and LRSs
SP² System Features

- **Human Performance Measurement Language (HPML)**
  - Extensible Markup Language (XML) schema
  - Designed to express performance measurement concepts in a format that is both machine and human readable

- **Experience API (xAPI)**
  - 1.0 Specification developed by the Advanced Distributed Learning (ADL) Initiative, April 26, 2013
  - Defines a method to track data about learning experiences

Visual Source: @LizBurow
Current SP² Framework
Summary of Current Efforts

- Developed an architecture for synergy between ADL’s xAPI, ARL’s SCALE and GIFT.
- Defined best practices for encoding individual performance from both system-based and observer-based measures.
- Developed requirements for tools to view this data.
- Built a proof of concept using existing performance assessment technologies.
Upcoming Efforts & Next Steps

- Define best practices for encoding team performance data.
- Identify additional consumers and producers of data.
- Engage community partners and early adopters.
- Generate new data sources and validate best practices.
Our goal:
To define a path ahead to interoperable tracking of individual and group performance to support adaptive and tailored learning.
Questions?

For more information, contact:
Tiffany Poeppelman
937-490-8015
tpoeppeplman@aptilma.com