U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND – SOLDIER CENTER

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Learning Analytics:
Adaptive Instructional Systems and STE

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DIGITAL TOOLS

James Paul Gee [2] framed technology as those tools -- including digital tools -- that facilitate a distributed cognition for problem solving.

PROBLEM-SOLVING

However, problem-solving is not an agnostic aim.

DEWEY & TECHNOLOGY

Dewey's idea of "responsible technology" is as relevant today as it was when he first critiqued the technological culture of the 1920's:

Dewey defined his view of a balanced technology, that included equipping citizens to develop the skills of consideration and criticism.

DEWEY & TECHNOLOGY

- This analysis of Dewey is relevant to the discussion of learning analytics particularly in light of the US Army's STE initiative and identified areas of training and education necessary for the next generation of war fighters.

STE

STE

- "The Synthetic Training Environment (STE) is designed to provide a cognitive, collective, multi-echelon training and mission rehearsal capability for the operational, institutional and self-development training domains.

- "It brings together the virtual, constructive and gaming training environments into a single STE for Army Active and Reserve Components as well as civilians.

- "The Synthetic Training Environment will interact with and augment live training, which is the primary training approach for the Army.

https://asc.army.mil/web/portfolio-item/synthetic-training-environment-ste/

STE & AISS

- Immediate task is to explore not only how to integrate innovation into training and learning, but consider how we can achieve meaningful learning with technology that supports discriminate intelligence.

MILITARY APPLICATION

- In 2017, then Army Chief of Staff General Mark Milley shared his thinking about the future of the US Army.

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STE AND AIS'S

- Achieving these objectives requires the application of innovative technologies that support authentic engagement and support discriminate intelligence not only in developing STE, but orienting instruction based on the needs and traits of its learners– a primary aim of adaptive instructional systems (AISs) such as GIFT.

GENERALIZED INTELLIGENT FRAMEWORK FOR TUTORING

GIFT

- GIFT can make instructional decisions to adapt content and sequencing of content to support expert problem solving, as well as make adaptive selection based on learner traits, needs, and preferences.

- Further, it can host a range of constructivist learning artifacts and objects to support meaningful learning in educational experiences, e.g., game-based learning, virtual tutors, and virtual human agents.

IN SHORT…

- In short, there is a renewed interest in Dewey's call to support discriminate intelligence through the use responsible technology.

- AISs such as GIFT, are contributing to the STE effort--positioned to create novel, engaging, liminal spaces where learners can more fully engage in a constructivist approach to learning.

- Using GIFT in combination with STE will allow for distributed cognition in problem solving oriented towards developing discriminate intelligence to prepare the next generation of war fighters.

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