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Federal Law Enforcement Training Center (FLETC) Training Systems Curriculum Study

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Objectives

- Evaluate a set of current FLETC curriculum to determine where the addition or augmentation of M&S capabilities may improve training and evaluation processes for training and skill assessment

FLETC Training Systems Study

- Focus Area 1: Analyze courses not supported with M&S Technology.
- Focus Area 2: Analyze courses supported with M&S Technology.
- Focus Area 3: FLETC of the Future (eFLETC)

FLETC Modeling & Simulation Utilization

- Focus Area 1: M&S Utilization Concepts
- Focus Area 2: Modeling and Evaluation for Skill Assessment
- Focus Area 3: M&S within the Classroom of the Future (eFLETC)

Methodology

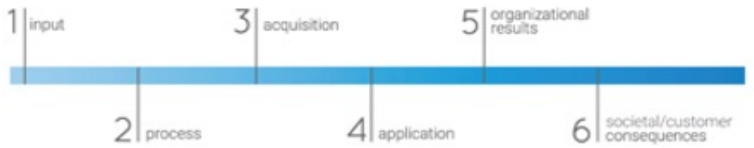
TASK 1

Focus Area 1:
Courses Not Supported with M&S

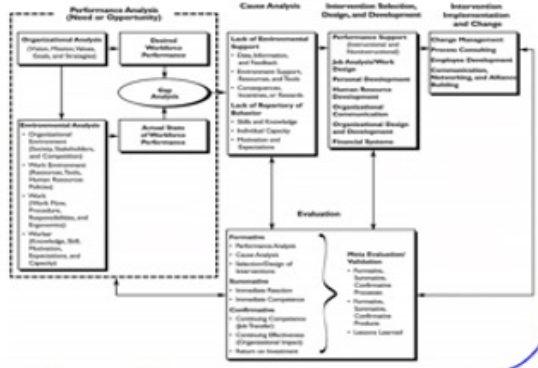
Focus Area 2:
Courses Supported with M&S

Anderson Value of Learning Model (2006)

Fig 2. Six Levels of Kaufman



HPT Model (2004)



TASK 2

Focus Area 1:
Model Methodology

Focus Area 2:
Design for Skill Assessment

Focus Area 3:
Proof of Concept Model

eFLETC
Of the Future

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Task 1 Description and Goal

- Task 1 utilizes 3 learning systems models (Anderson Model of Learning Evaluation, Kaufman's Level of Evaluation Model, and Human Performance Training Model) to evaluate relevant current course curriculum, align data collection methods, and generate suggestions for course improvement(s).
- Analysis of current and future utilization of M&S concepts in 5 courses through in-person visits, online surveys, focus group sessions, interview sessions, and evaluation of course and curriculum resources (lesson plans, syllabi, instructor guides, student guides, etc.)
- Define equipment, instructional, personnel, environmental and operational requirements
- Assessment of learning impacts for each course
- Analysis and determination of systemic implications such as: scalability, upgradability, mobility, and portability of embedded M&S concepts in 5 courses

Task 1: FLETC M&S Training Study Overview 1st and 2nd Focus Areas

1st Focus Area – Analyze courses not supported with M&S Tech

- 3 courses: Tactical Medical 8016, Active Threat Response Tactics 5111, Fourth Amendment 1211
- Identify modalities and gaps in which M&S can be utilized and the effects on training and evaluation:
  - Modeling and simulation
  - Asynchronous learning
  - Mobile training

2nd Focus Area – Analyze courses already supported w/ M&S Tech

- 2 courses: Law Enforcement Handgun 6000, Use of Force 5046
- Identify gaps in delivery, resources, and additional efficiencies

3rd Focus Area- FLETC of the Future

- Review FLETC strategic plans, documentation, course offerings
- Analysis of potential capabilities utilizing M&S, software environments, end-user interfaces, novel approaches for training

Task 1: Activities and Modalities for Evaluation of M&S Courses

Activity	Modality
Conduct a confidential survey of instructors.	Online questionnaire
Conduct a confidential survey of Partner Organizations	Online questionnaire
Conduct a confidential survey of Leadership	Online questionnaire
Focus Group for instructors	Webinar
Focus Group for Partner Organizations	Webinar
Focus Group for Leadership	Webinar
Course curriculum analysis	In-person visits, Virtual

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Task 1 Data Collection

Phase 1, Phase 2, Phase 3

- **Seven Qualtrics Surveys** (Aligned to Anderson Value of Learning Model, Kaufman's Levels of Evaluation, and HPT Model)
  - FLETC Partner Organizations
  - Leadership Survey
  - LP-1211 Fourth Amendment Participants
  - LP-5046 Use of Force Participants
  - LP-6000 Handgun Participants
  - LP-5111 Active Threat Response Tactics Participants
  - LP-8016 Tactical Medical Participants

- **Three Focus Groups and Interviews** (Aligned to Anderson Value of Learning Model and HPT Model)
  - Instructors
  - Partner Organizations
  - Leadership

- **Analysis of Course Curriculum Resources Provided** (Aligned to Kaufman's Levels of Evaluation and HPT Model)
  - Course lesson plans
  - Course syllabi
  - Practical Evaluations
  - Course textbooks/guides

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Task 2 Description and Goal

- Task 2 leverages a systems engineering approach using the Department of Defense Architecting Framework (DoDAF) viewpoints to represent the structural and behavioral aspects of the course curriculum.
- It will analyze the utilization of M&S concepts developed during Task 1 and plan for a proof-of-concept demonstration during course delivery.
- The model usefulness will depend on the fidelity of the underlying data.

Task 1 to Task 2 Transition Data

Task 1 Course Analysis Outcomes	Task 2 Inputs into Modeling Activities
7.4.a Delivery Modalities 7.4.b Curriculum Prerequisites	1st Focus Area - M&S Utilization Concepts Phase 1: generating the as-is and to-be states
7.4.c Technology & Equipment Requirements 7.4.d Instructor Training Requirements	1st Focus Area - M&S Utilization Concepts Phase 2 creating models of the to-be system
7.4.e Assessing Learning Impact 7.4.f Impacts for Learning	1st Focus Area - M&S Utilization Concepts Phase 3 identifying the evaluation criteria
Capability View – Organizational *Operational View- Curriculum* *Systems View- Technology*	2nd Focus Area - Modeling and Evaluation for Skill Assessment
Selected Curriculum Example	3rd Focus Area - M&S within the Classroom of the Future

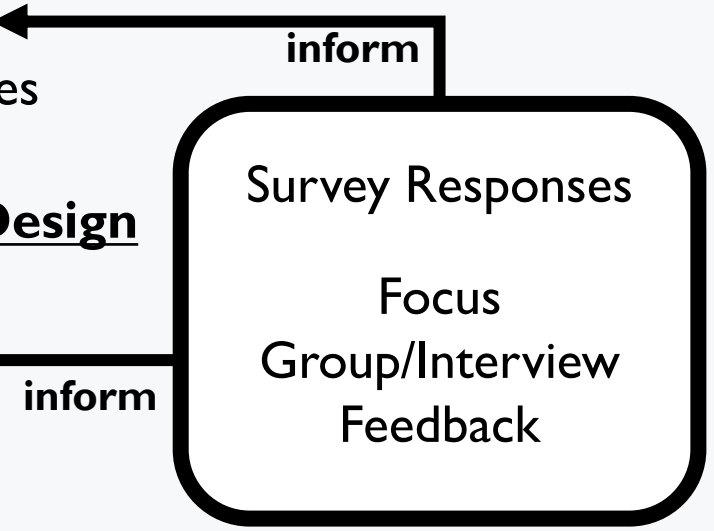
Task 2: FLETC M&S Utilization Overview
1st Focus Area – M&S Utilization Concepts

Phase 1 of the Proof-of-Concept Design – Identify Opportunities

- Review Current Training Concepts
- Review Gaps in Current Training and Suggested Training Tools
- Identify Relationships between Existing and Desired Capabilities

Phase 2 of the Proof-of-Concept Design – Architecture Design

- Create a Conceptual Representation of the Curriculum
- Develop Functional Models to represent content
- Develop System Models to represent technology



Phase 3 of the Proof-of-Concept design – Evaluation design

- Integrate the set of models
- Identify evaluation criteria for alternative designs

Task 2: FLETC M&S Utilization Overview
2nd and 3rd Focus Areas

2nd Focus Area - Modeling and Evaluation for Skill Assessment

- The curriculum models describe as a set of learning activities that may vary due to the inclusion of M&S technologies
- Methods to evaluate impact of the M&S on student skill attainment will be identified.

Focus Area 2: Design for Skill Attainment

3rd Focus Area - M&S within the Classroom of the Future

- The architecture design can be used to create an activity model that represents the interactions in the curriculum.
- The process to create a proof-of-concept model of a proposed M&S utilization to enhance the FLETC classroom of the future and evaluate improvements in learning will be described.

Focus Area 3: Proof of Concept Model

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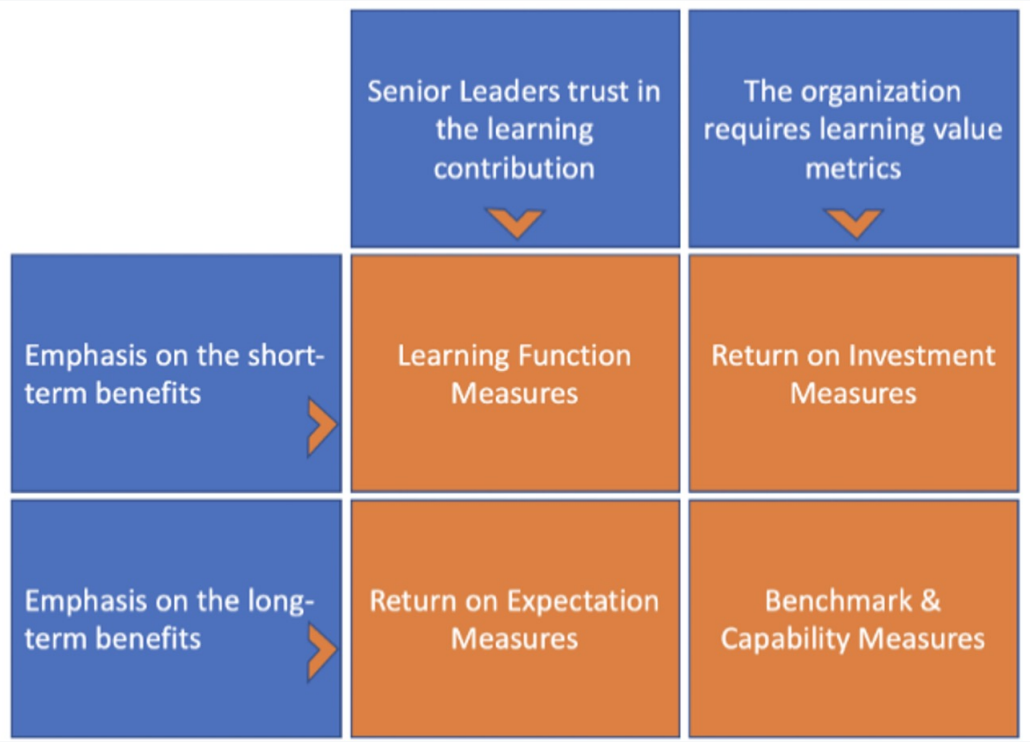
Appendix

Overview of Methodology

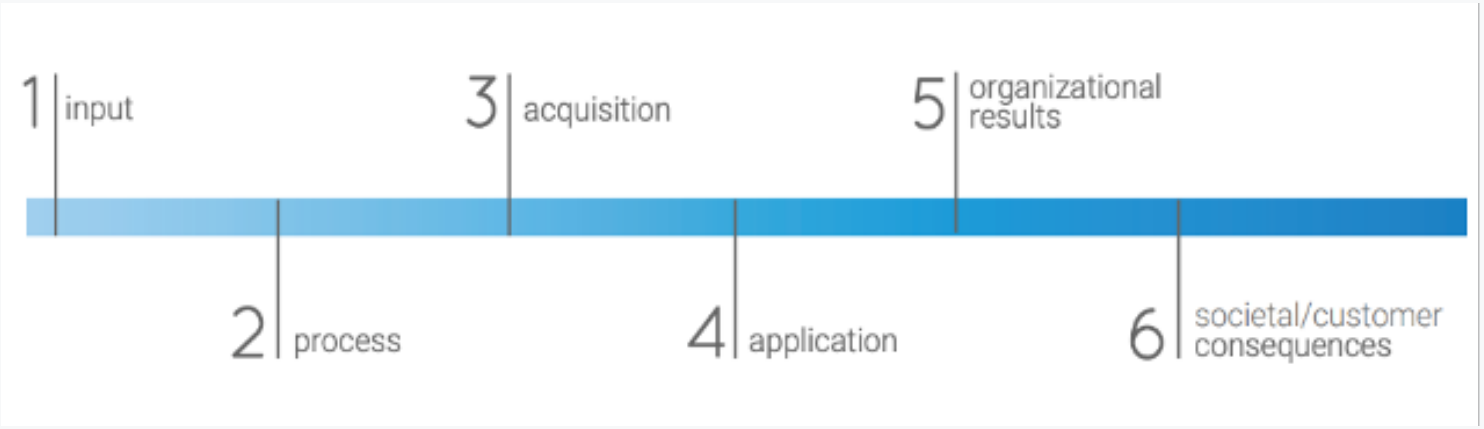
- Apply the Anderson Model of Learning Evaluation, a three-stage learning evaluation cycle that is designed to be applied at an organizational level.
- Identify embedded content processes, and optimization methods to review the current and future implications of course enhancements.
- the International Society for Performance Improvement's (ISPI) Performance Improvement/HPT Model will be used to work through the process of adding M&S training into the curriculum.
- Use the results to identify a methodology to create a model of the enhanced curriculum. It will leverage a systems engineering approach and utilize an architecture framework to capture the curriculum from both a behavioral and structural perspective.
- Proof-of-concept model of the M&S utilization will be described; the scenario representing the sequence of the course curriculum will provide the baseline model.

(Task 1) Anderson Value of Learning Model (2006)



- Focused on the overall learning strategy and the extent to which this is aligned with an organization's strategic priorities.
- Applied at an organization level. Investigates training and learning programs are helping an organization meet its strategic priorities.
- Helps an organization address the two main challenges:
  - The Evaluation Challenge
  - The Value Challenge
- Less challenging to apply than other evaluation models as it is not focused on individual training programs.

(Task 1) Kaufman's Levels of Evaluation Model (2008)

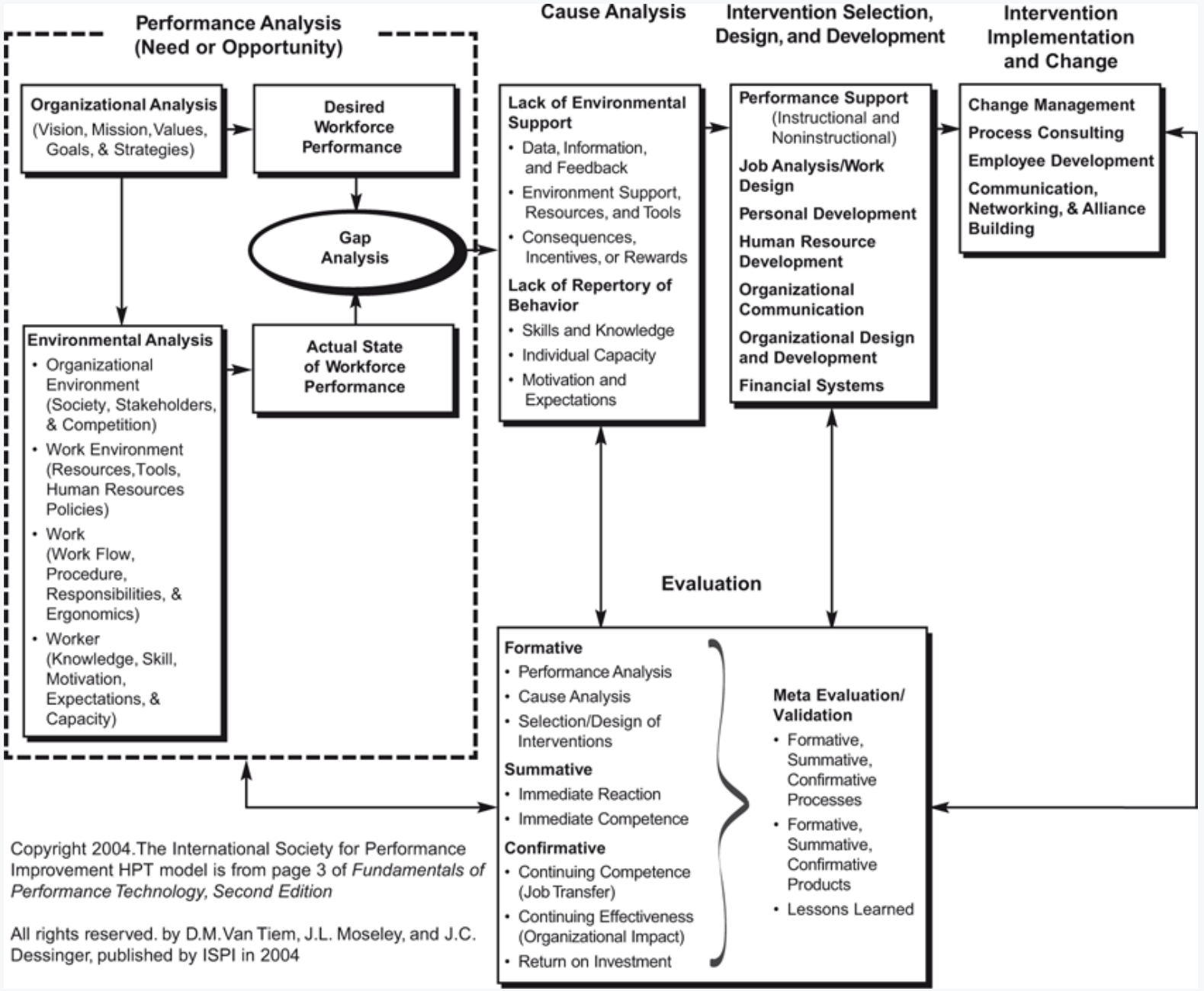


- Evaluate instructional systems with the end user in mind, an essential analysis element of embedded simulations within course modules.
- Advantages of utilizing this model include:
  - Separating evaluation of resource quality, deliverability, and availability. Provides data to analyze factors of a course success or needed improvements.
  - Integrates variables of instructional delivery of educational technology and resource analysis highlighting multiple factors that affect the efficiency, sustainability, and learning outcomes of a course.

(Task 1) Kaufman's Levels of Evaluation Model (2008)

Analysis Type	Processes & Components
Congruent Analysis	Investigate the alignment of the simulations to the learning goals, performance tasks, learning requirements of the trainee, course competencies, overall training framework, needs and overall mission of FLETC.
Content Analysis	Explore the coordination of content, simulation narratives, information architecture, accuracy, and software requirements embedded within the simulations. A gamification element within simulations will be analyzed and explored.
Design Analysis	Review of related performance tasks to course content, lesson guides, overall competency and content alignments; additional learner resources based on FLETC Strategic plans alignment to evidenced-based instructional practices, human-computer and interaction design principles. Potential societal implications will be explored at the request of FLETC.
User Analysis	Review of interoperability components and barriers of simulation utilization for trainees and instructor's incorporation, interaction, and deployment (equipment, motivations, medical, etc.).
Feasibility Analysis	Exploration of equipment requirements, platforms, software integration, delivery modes and/or challenges of equipment, software, instructor training for deliver and utilization of simulations within course modules.

Fundamentals of Human Performance Technology (HPT)



Fundamentals of Performance Technology

- Begins with a comparison of the present and the desired levels of individual and organizational performance to identify the performance gap.
- Causes are determined.
- Interventions designed and developed.
- Formative evaluation assesses the performance analysis, cause analysis, intervention(s) selection, and design, and intervention(s) and change phases.
- Summative evaluations are centered on the improvement of learning outcomes (such as an increase in learning gains, and mastery level attainment)
- Determining return-on-investment for the intervention and achieve the goal of FLETC of the Future (e-FLETC).