

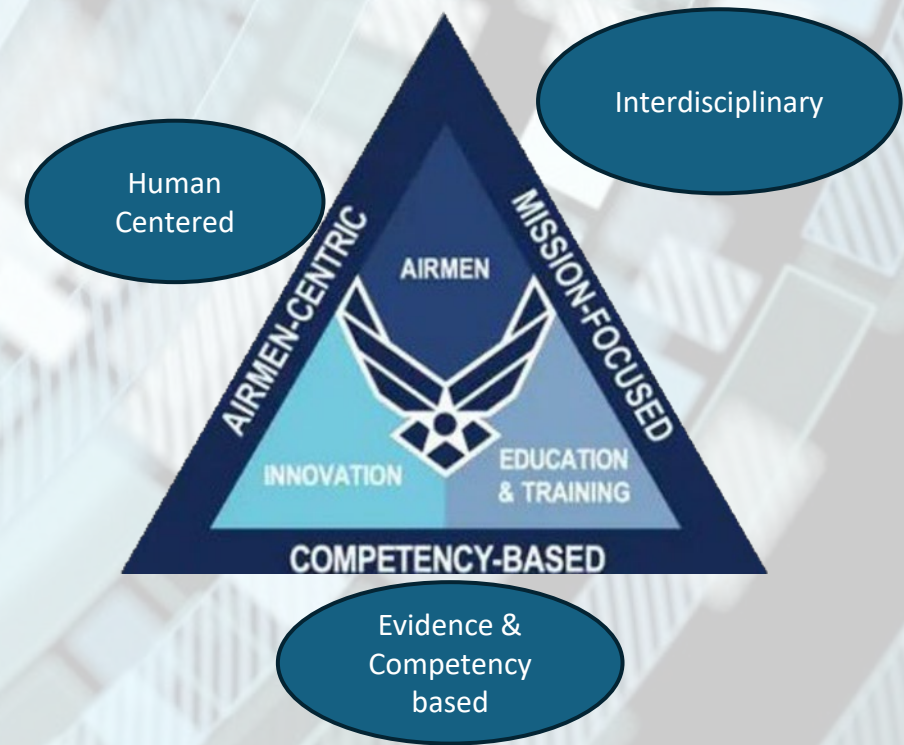


# **Air Education and Training Command Enterprise Learning Engineering Center of Excellence (ELE CoE)**



# LEARNING ENGINEERING

**Learning Engineering as a sense making framework for USAF learning defined as the systematic application of evidence-based principles, scientific methods, and practices from the learning sciences, education research and systems thinking to produce effective learning outcomes. It is an Airmen- centered design approach enabled by collaborating, interdisciplinary mission threads and measured by competency acquisition to actualize mission readiness.**







# Learning Engineering: a **process** & a **practice**

## **Human Centered**

- Culture of trust and connection focused on measured development
- Student, instructor & systems centered
- Envision a multi-dimensional learning ecosystem with human machine teaming

## **Inter-disciplinary & Share Understanding**

- Collective standards with communicated & shared flexibilities that honor diversity of perspective.
- Empathy and understanding of the variety of roles that interact for mission success

## **Evidence & Competency- based**

- Pathways to building competency, support autonomy & grow relatedness
- Employing and scaling scientific method as a norm

# *What is the ELE COE?*

An organization focused on continuously modernizing, innovating and optimizing learning

- Enhance communication between internal and external stakeholders
- Optimize Training and Educational technology, processes, outcomes and effectiveness
- Share and facilitate multidisciplinary research impacting learning science, instructional design, education tech, and training methods

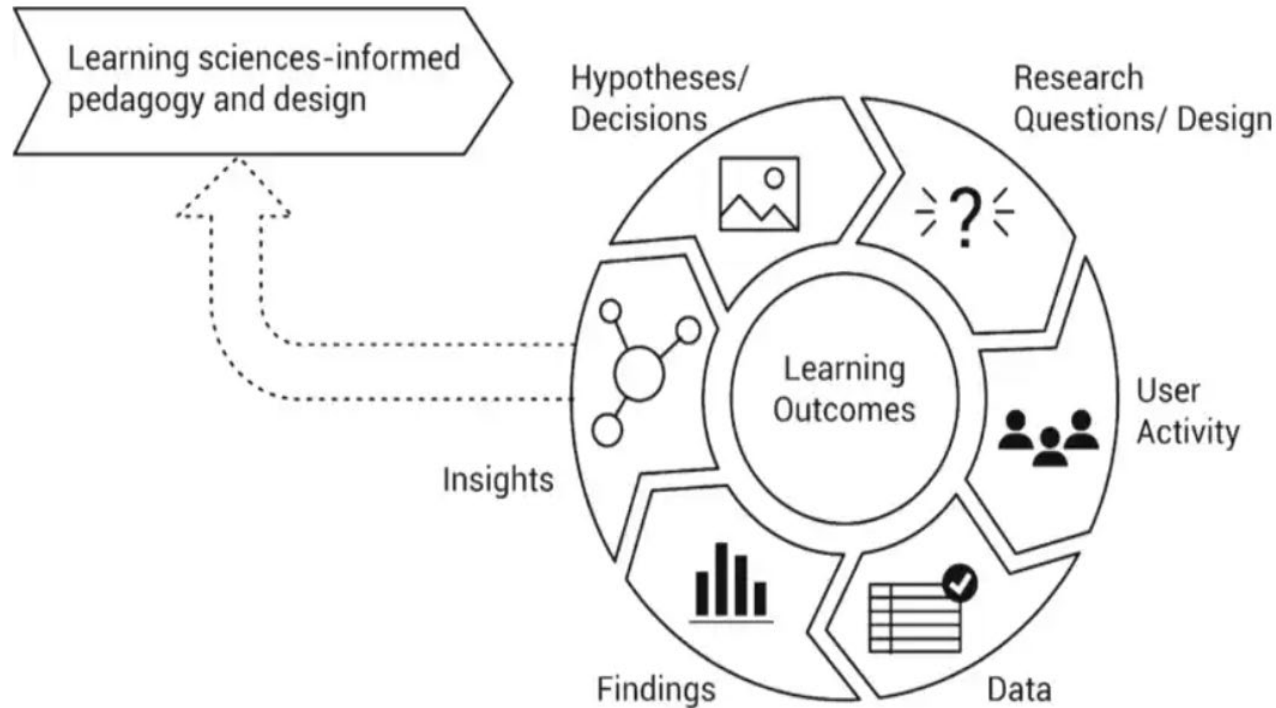




# ELE CoE Purpose

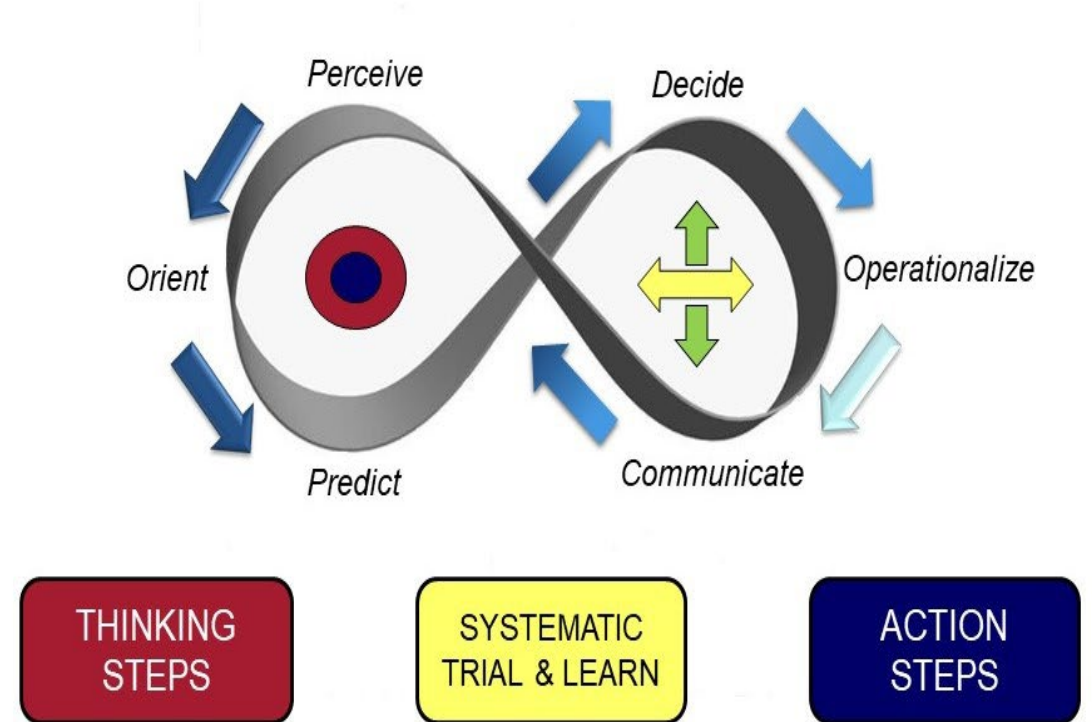
Provide AETC with the ability to work within and across structures and communities to optimize and accelerate learning, improve retention, and apply scientific thinking to generate and validate evidence-based learning investments

# Scientific Method Applied to Solve Learning Challenges



The learning engineering process. From [10].

## POP-DOC



# The Approach

## Build

- Build a dynamic collaborative trust network

## Advance

- Advance learning science & faculty development

## Facilitate

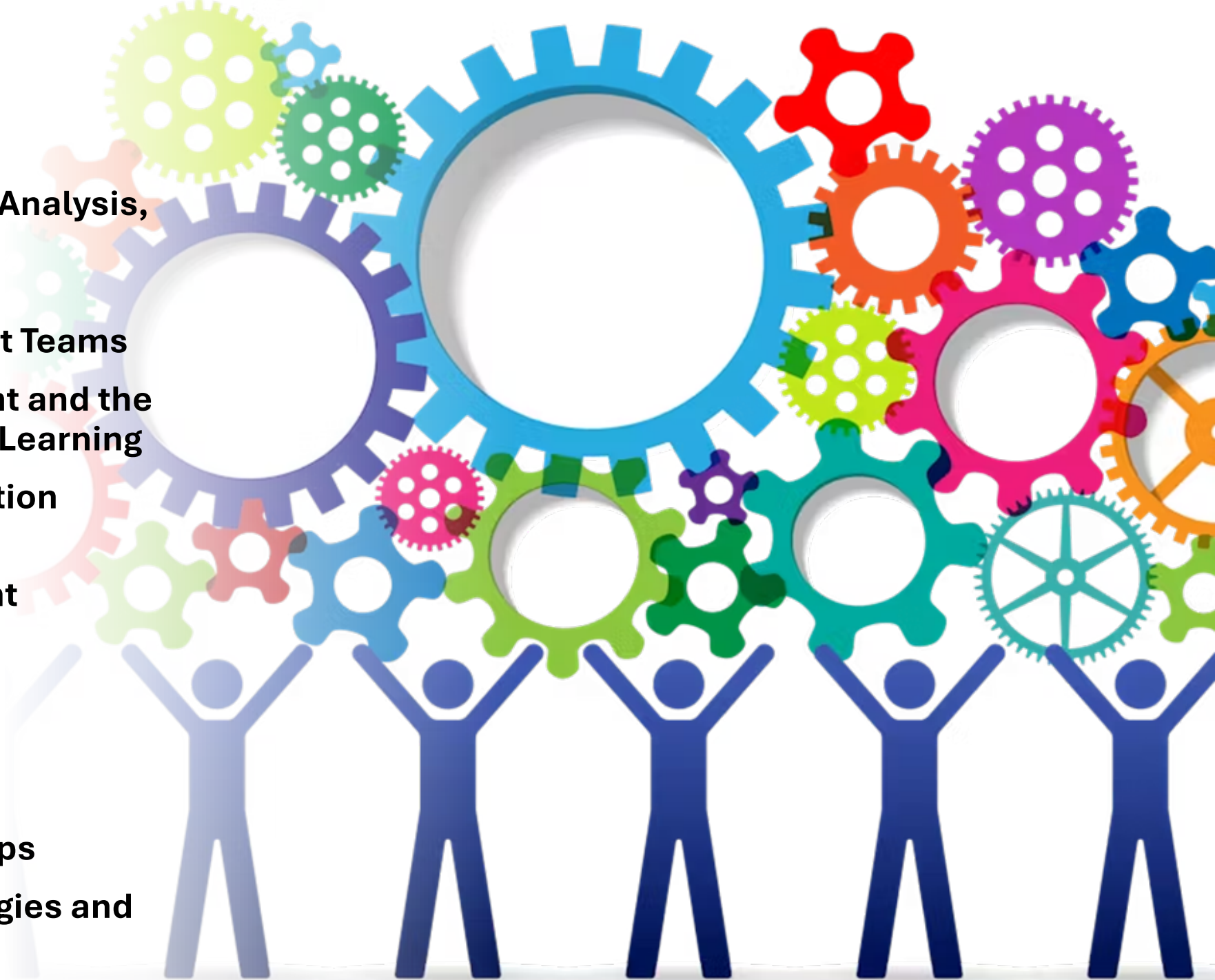
- Facilitate policy & guidance for competency-based training and assessment

## Establish & support

- Establish & support learning systems evaluation methodology & knowledge repository

# ELE in Action

- **Learning Data Management, Analysis, and Integration**
- **Collaborate and learn with Industry/Academia/Joint Teams**
- **Support Faculty Development and the Scholarship of Teaching and Learning**
- **Human Performance Integration**
- **Learning Management System/Student Information Systems**
- **Determine Capability Gaps**
- **Science and Technology Interoperability**
- **Interdisciplinary Focus Groups**
- **Field-Test Learning Technologies and Methods**





# ELE Organization

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## **Human Performance**

Plan and design strategies for programs to optimize human performance through human-centered design into force development, training and education

## **Learning Technology**

Connect with current technology, clarify and communicate standards for security, interoperability and optimized learning

## **Learning Outreach**

Connect, communicate and establish relationships with internal and external network of stakeholders to support information flow and awareness of efforts, innovations and programs



## Current Efforts

- **Commander's Challenge- Immersive Learning**
- **DAFMAN Competency-Based Learning Implementation**
- **Faculty Development-Review**
- **Learning Technology Verification & Validation Process**
- **Creating the Network of Connectivity**