



# Fostering Critical Thinking Skills in the HEIs of Armenia in the Age of AI-driven Transformation

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## TRANSFORMATIONS OF THE LANDSCAPE IN ARMENIA

- Inception phase of digitalization in the HEIs;
- Curricular reform gearing toward the development of learning outcomes.

- Development of digital learning environment;
- Promotion of pedagogical innovation to make SCL a reality;
- Dialogue with employers to bridge the skillset gap.



# Intricacies of Developing Critical Thinking (CT) Skills in the Era of AI Transformation

## **PROBLEM: AI TOOLS AFFECT ADVERSELY THE DEVELOPMENT OF CT**

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- Heightened socioeconomic precariousness;
- CT as the biggest skill gap in the labor market;
- Insufficient University-Enterprise and international collaboration;
- Inconsistences in CPD: Need for upskilling on AI literacy in HEI;
- Cognitive biases & heuristics, polarization in using AI generated contents.

## **SOLUTION: FOSTERING COLLABORATIVE & PEOPLE-CENTERED CULTURE**

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### **Overarching national level strategy**

- Paradigm shift towards person-centeredness, sustainability, and resilience;
- HEIs reforming their curricula to prepare future-proof students;
- System level CPD in HEIs with special focus on AI literacy;
- Implementation of teaching models of CT in TLLs.

# Skills development in Armenia



Highly provides
  Moderately provides
  Does not provide

## ⚖️ Today, 2024

- Analytical thinking and innovation
- Complex problem-solving
- Critical thinking and analysis
- Active learning and learning strategies
- Creativity, originality, and initiative
- Attention to detail, trustworthiness
- Emotional intelligence
- Reasoning, problem-solving, and ideation
- Leadership and social influence
- Coordination and time management

## 📈 Trending

- Analytical thinking and innovation
- Active learning and learning strategies
- Creativity, originality, and initiative
- Technology design and programming
- Critical thinking and analysis
- Complex problem-solving
- Leadership and social influence
- Emotional intelligence
- Reasoning, problem-solving, and ideation
- Systems analysis and evaluation

# Students on AI's Carbon Footprint and the use of AI in the VUCA world



[https://www.technologyreview.com/2023/12/01/1084189/making-an-image-with-generative-ai-uses-as-much-energy-as-charging-your-phone/?tnid=&utm\\_source=the\\_algorithm&utm\\_medium=email&utm\\_campaign=the\\_algorithm.unpaid.engagement&utm\\_content=12-04-2023](https://www.technologyreview.com/2023/12/01/1084189/making-an-image-with-generative-ai-uses-as-much-energy-as-charging-your-phone/?tnid=&utm_source=the_algorithm&utm_medium=email&utm_campaign=the_algorithm.unpaid.engagement&utm_content=12-04-2023)

# **Introduction of CT Teaching Approaches**



**Infusion**

**Mixed**

**Universal**

# Implementation of Universal Approach

**The Intended LOs of CT (optional) courses:**

- **Presentation of theoretical underpinnings of CT;**
- **Analysis of real-world scenarios through the application of CT strategies.**

## **Implementation of Mixed Approach**

**The Intended LOs of integrating CT within the courses:**

- **Presentation & application of CT strategies;**
- **Application of CT strategies in research, resource selection;**
- **Application of CT strategies in PBL.**

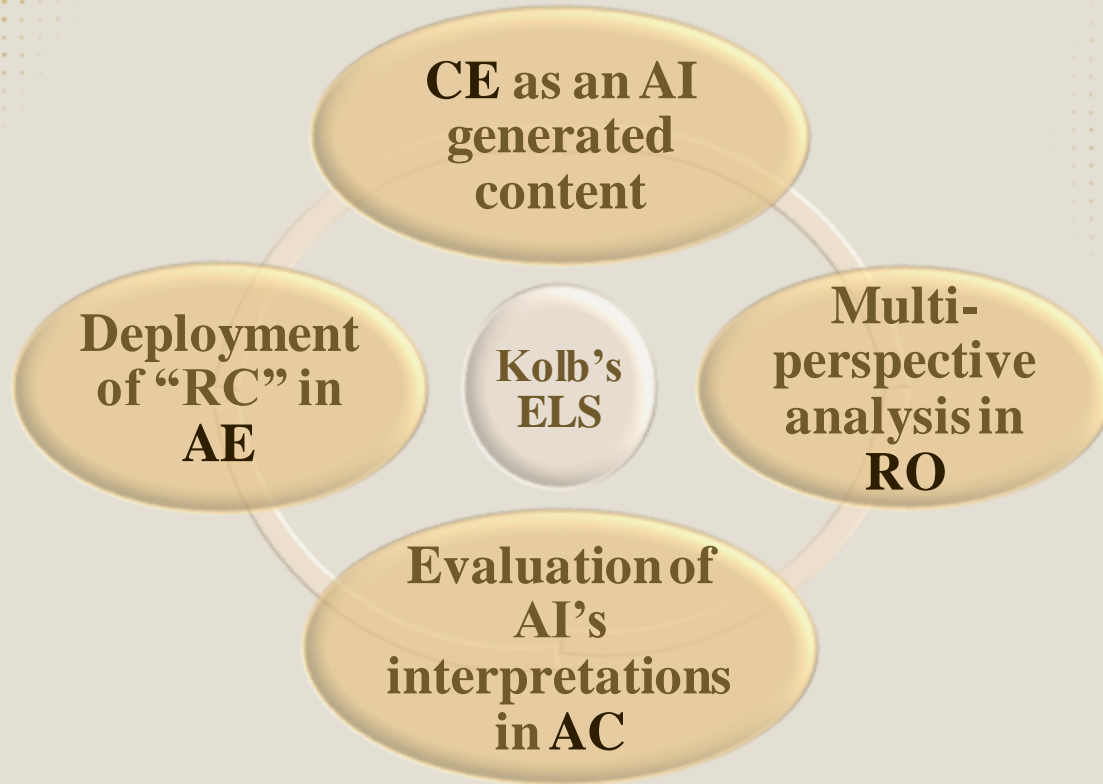


# Implementation of Infusion Approach

## The Intended LOs of infusing CT strategies:

- **Identification of CT strategies through Discovery Method (two-way system);**
- **Application of CT strategies in research and learning, problem-solving to ensure ethical use of AI tools.**

# Applying CT to “Reflective Cycle”



# Critical thinking Processes & Models

Applying consistent principles and criteria

Analyzing the synthesized information

Questioning the validity of evidence and derived conclusions



**Red**

- Bias Recognition
- Evaluation & Conclusion

**Bloom**

- Evaluating
- Enhancing the creation

**Paul-Elder**

- Employing Principles & Standards
- Developing empathy & perseverance

**R**

- **Recognizing Assumptions** that underlie AI generated statements;

**E**

- **Evaluating** the validity of **Arguments**;

**D**

- **Drawing Conclusions** and challenging the inferences made by AI.

## **Bloom's Taxonomy: Special focus on the highest order thinking skills**



**Creating**

**Evaluating**

**Analyzing**

# Paul-Elder Model: Clarity, Accuracy & Relevance in the age of AI Transformation



## Critical Thinking

Problem-solving

Decision-making



## Elements of Thought

Purpose,  
Research question,  
Information,  
Inference,  
Implications,  
Point of view

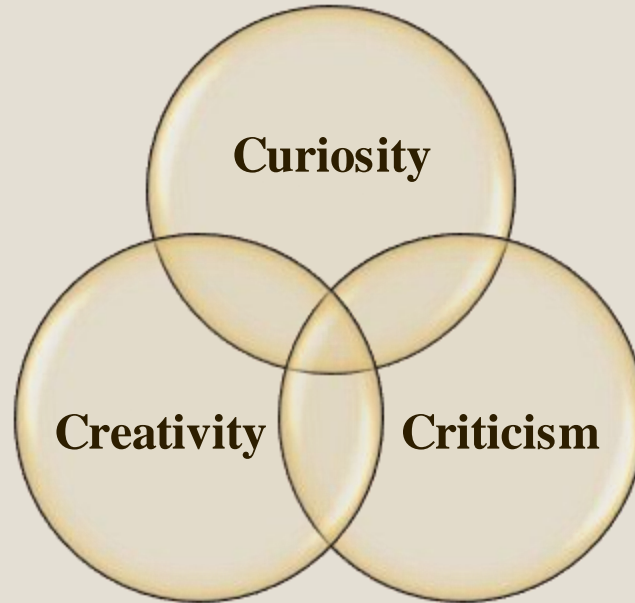


## Intellectual Traits

Intellectual humility,  
Intellectual empathy,  
Intellectual perseverance.

# Main Focuses of Developing CT Skill in AI Integrated Learning

Questions to avoid  
heuristics & polarization

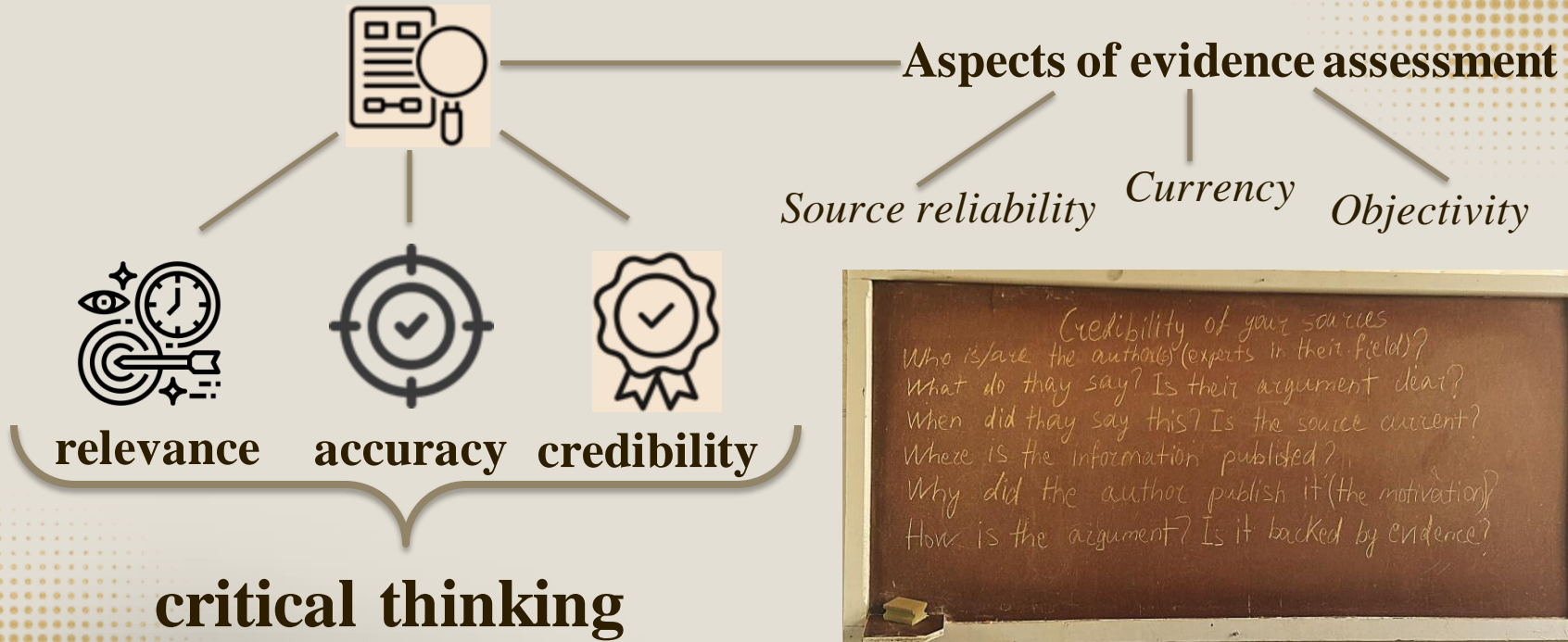


Awareness about  
lack of innovation  
and originality

Evaluation of  
logic, relevance &  
authenticity



# Evidence Assessment of AI Generated Contents





# CT Development in the Context of AI Transformation

## Person-Centeredness

- Implementing technologically-enhanced learning;
- Improving students' career prospects and trajectories,
- Career advancement for teaching staff due to CPD

## Sustainability

- International and Cross-institutional mobility;
- Responsible and efficient use of AI in L&T.

## Resilience

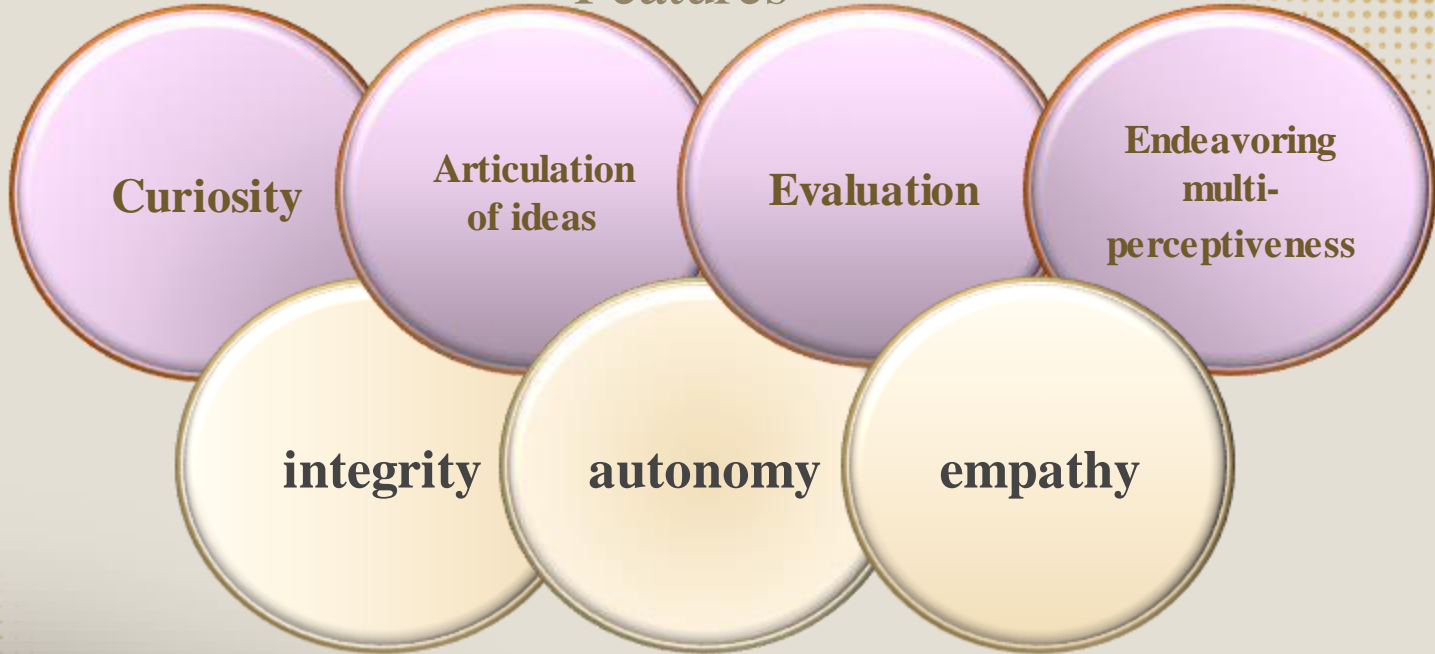
- Integration of SCL in the digital learning environment of HEIs;
- Integration of Media literacy and Critical thinking in curricula.

*Thank you  
for  
your attention*



# The Values of Critical Thinking Mindset

Features



Values