



Preparing
Students for
an AI
Workforce in
CTE
Classrooms?

Meet Your Presenter

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PROFESSIONAL BACKGROUND

- Former secondary Business Education teacher
- Former Career & Technical Education Administrator
- Teacher educator in Family & Consumer Sciences Education
- Researcher in workforce readiness, practical reasoning, and work-based learning



AREAS OF FOCUS

- AI and workforce readiness in CTE
- Practical reasoning and ethical decision-making
- Human-centered learning in an AI-driven world
- Employer-education partnerships and workforce preparation



WHY THIS WORK MATTERS

Preparing students for the future is no longer just about technical skills. It is about helping students think critically, evaluate information, and make decisions alongside AI technologies.



An Opening Reality Check

If AI can already do the assignment...what are students actually learning?

Before we integrate AI into our CTE classrooms, we must ask this foundational question. The answer shapes everything about how we design learning experiences going forward.

How Are You Currently Using AI?

A. Not at all

B. Exploring

C. Some Integration

D. Regular Use





The Real Shift

AI is not just another tool; it fundamentally changes **how work is done**. Students no longer need help *finding* answers. They need help **evaluating and using** answers.

AI is Not Just a Tool

It changes how work is done across every industry and career field.

Answers Are No Longer the Goal

Students no longer need help finding answers because AI handles that.

Evaluation Is the New Skill

Students need help evaluating and using AI-generated answers effectively.

Why This Conversation Matters Now

- 44% of core workforce skills are projected to change in the next few years.
- AI is reshaping the composition of jobs, not simply eliminating them.
- Students must learn to evaluate, critique, and collaborate with AI systems.
- CTE classrooms are uniquely positioned to prepare students for applied AI work.

Source: Applied Co-Intelligence Report



The Problem With Today's Assignments

Most Assignments Measure:



Recall



Completion



Accuracy



But **AI can already do all three.**

The New Question

What should students do when AI already knows the answer?

This is the central challenge for CTE educators. If our assignments only require recall, completion, and accuracy, AI can complete them, and students learn nothing beyond what the AI already knows.

We must redesign learning experiences so that students are doing the work AI **cannot** do for them.

What's Changing in Work

Jobs are evolving in composition, not disappearing.

- Tasks are being restructured
- Decision-making is more complex
- Workers must evaluate AI outputs



Critical Workforce Shifts

Source: aiEDUs “What Skills Matter Now” framework



The cognitive bar is rising, not falling.



Assessment must shift from product completion to evidence of thinking.



Human judgment and decision-making are becoming more valuable in every industry.



Students must know when AI is wrong, not just how to use it.

High-Impact + AI Workforce

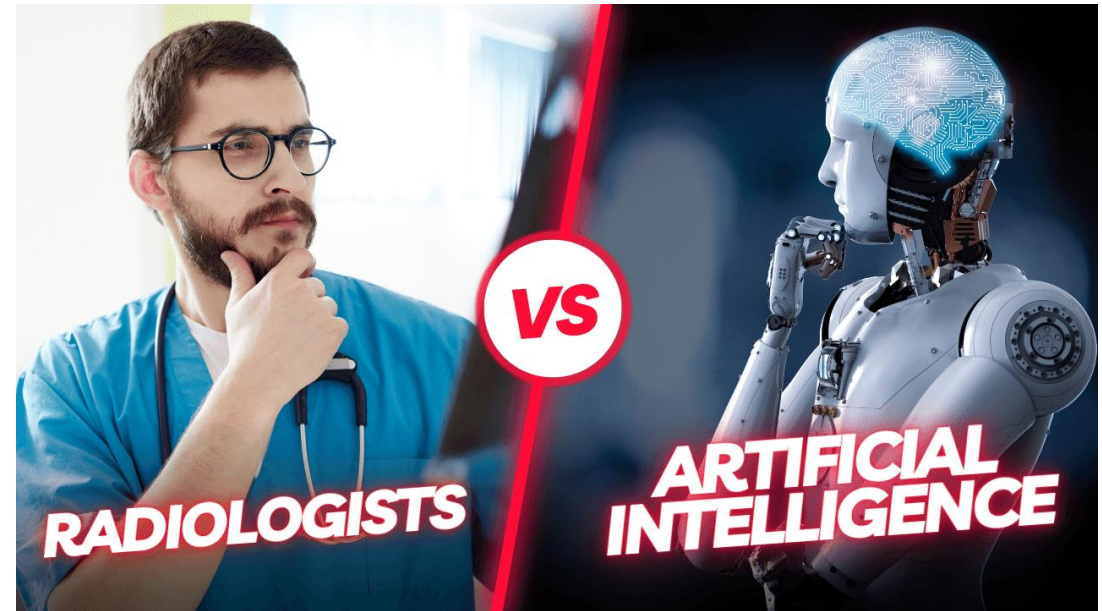
Example 1

- **Healthcare: Radiologists + AI**

- AI can quickly analyze thousands of medical images and flag possible abnormalities
- But radiologists still:
 - Interpret context
 - Make final diagnoses
 - Communicate with patients
 - Identify AI errors
 - Consider ethical and human factors

- **The Real Shift:**

- AI increases speed and detection rates, but human expertise remains essential.



High-Impact + AI Workforce

Example 2

- **Manufacturing: Predictive Maintenance**

- Factories now use AI to predict when equipment may fail before it breaks down by:
 - Analyzes sensor data
 - Predicts maintenance needs
 - Detects anomalies
- Human technicians:
 - Determine severity
 - Troubleshoot causes
 - Prioritizes repairs
 - Ensure workplace safety

- **The Real Shift:**

- Workers are becoming AI-supported problem-solvers instead of just equipment operators.



High-Impact + AI Workforce

Example 3

- **Culinary & Hospitality**

- Restaurants and hotels use AI to:
 - Predict inventory needs
 - Reduce food waste
 - Personalize customer recommendations
 - Optimize staffing
- But culinary professionals still:
 - Create menus
 - Manage guest experience
 - Adapt to culture and preferences
 - Solve unexpected issues

- **The Real Shift:**

- AI can optimize efficiency, but hospitality still depends on human relationships and creativity.



High-Impact + AI Workforce

Example 4

- **Marketing & Business**

- AI now drafts:
 - Social media campaigns
 - Advertisements
 - Customer emails
 - Data reports
- But professionals still:
 - Evaluate brand tone
 - Check accuracy
 - Ensure ethics
 - Understand audience context
 - Make strategic decisions

- **The Real Shift:**

- The value is no longer producing content. The value is knowing what content should be used.



High-Impact + AI Workforce

Example 5

- **Skilled Trades & Construction**

- AI-powered systems now:
 - Read blueprints
 - Estimate costs
 - Monitor job-site safety
 - Optimize scheduling
- But skilled worker still:
 - Solve real-world problems
 - Adapt to changing conditions
 - Interpret the unexpected situations
 - Apply hands-on expertise

- **The Real Shift:**

- AI struggles in unpredictable physical environments where human adaptability matters.



Introducing Applied Co-Intelligence (ACI)

The future is not Human vs AI – It is Human + **AI**.

ACI is a framework for preparing students to work with AI, evaluate AI, and make decisions using AI. It is not about replacing human thinking. It is about amplifying it.

Work with AI

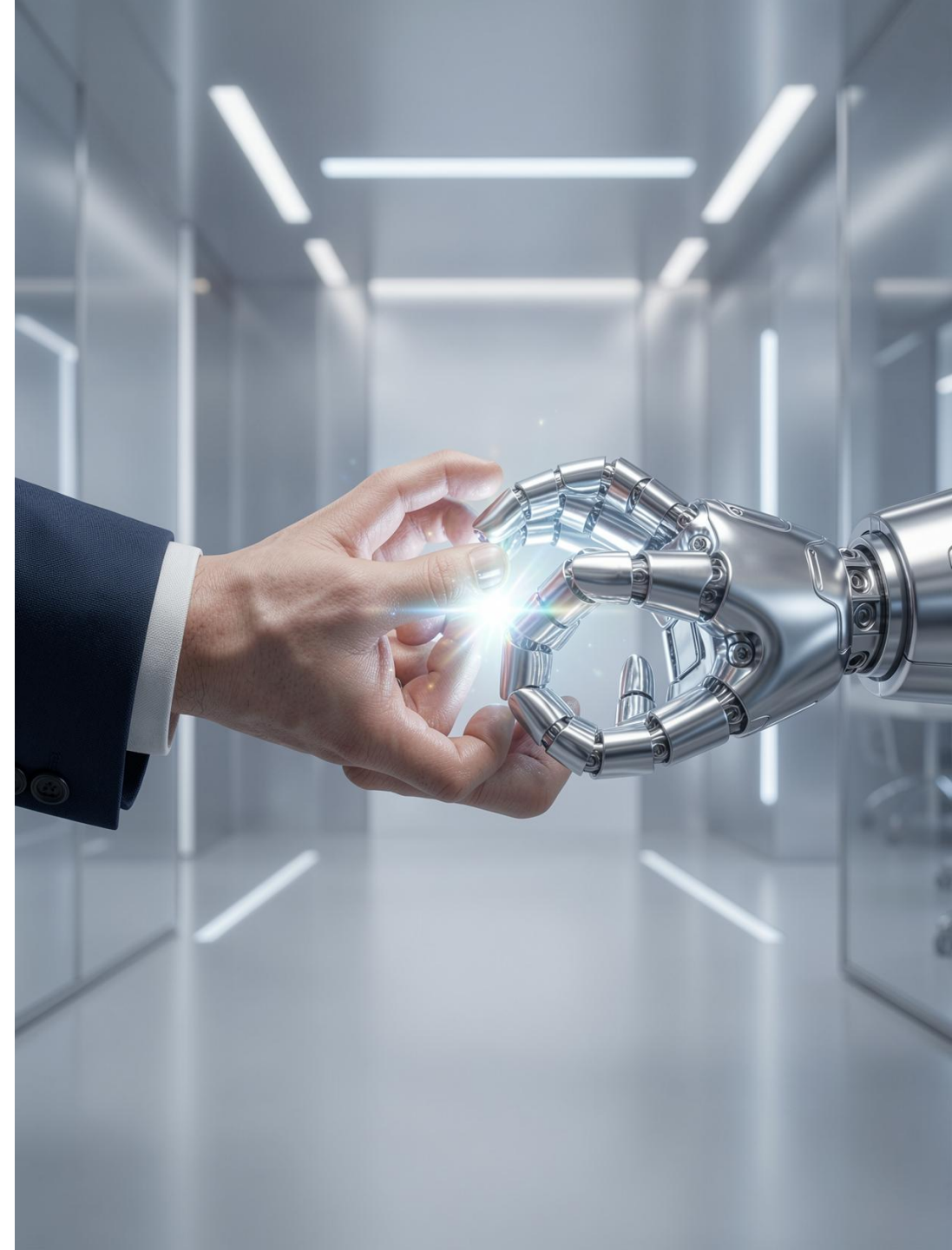
- Use AI a collaborative partner in the learning process.

Evaluate AI

- Critically assess AI outputs for accuracy and bias.

Decide with AI

- Make informed decisions using AI-generated information.



The Three-Part ACI Model: The Skills Shift

All three skill areas are required. Omitting any one leaves students unprepared for the AI workforce. Which area do your students struggle with most?

Technical Skills (CTE's Existing Strength)

- Industry-specific knowledge
- Hands-on skills
- Career preparation

Transferable Skills (The Critical Gap)

- Critical thinking
- Ethical reasoning
- Problem-solving
- Decision-making
- These are the skills
AI **cannot replace**

AI Mastery

- Level 1: Literacy
(Use AI)
- Level 2: Fluence
(Integrate AI)
- Level 3: Agency
(Evaluate AI)
- Level 4: Mastery
(Critique AI)



Why This Matters for the Workforce

The Changing Nature of Work

AI is changing the **type** of work available. Routine tasks are increasingly automated. Human judgment is becoming **more valuable**, not less.

Employers need graduates who can evaluate AI outputs, make ethical decisions, and solve problems that AI alone cannot handle.

The Instructional Gap

But here's the challenge . . .

We often teach:

- Completion of tasks

Instead of:

- Evaluation of decisions



A Simple Shift in Teaching

From Completing ☞ To Thinking

Traditional	AI-Ready
Find answers	Evaluate answers
Follow steps	Make decisions
Individual work	Human + AI Interaction



Barriers Schools Must Address

- **Alignment Crisis:** uncertainty between educators and industry expectations.
- **Human Capital Gap:** educators need support and professional development.
- **Structural Barriers:** policy inconsistencies and access gaps remain.
- **Evidence Gap:** limited research on equitable AI implementation in education.

Case Study: FCS Culinary Example

See how a traditional assignment transforms when redesigned with the ACI framework

Traditional Assignment

- Plan a cost-effective weekly meal plan for a family of four.
- Students produce a plan. AI could generate this instantly. Learning is limited to completion and recall.

AI-Integrated Version

- Use AI to generate a meal plan
- Evaluate nutrition accuracy
- Identify missing considerations (cost, culture, allergies)
- Revise and justify the final plan
- Students are no longer just *creating*—they are **analyzing and deciding**.

Case Study: Marketing Education Example

See how a traditional assignment transforms when redesigned with the ACI framework

Traditional Assignment

- Students create a marketing campaign for a new product by designing a logo, writing an advertisement, creating social media posts, and developing a target audience profile.
- AI can generate this. Learning is limited to content creation, completion, and recall of marketing concepts.

AI-Integrated Version

- Use AI to generate a marketing campaign for a new product
- Analyze which AI-generated campaign is most effective
- Identify inaccuracies or unrealistic recommendations
- Evaluate ethical concerns or stereotypes
- Determine whether messaging matches the brand identity, and
- Assess whether AI truly understands the target audience.

Misconception Check: True AI integration is **not** faster assignments. It is **AI + student evaluation**. AI integration is about **thinking**, not speed.

Guided Redesign Activity

In groups of 3–4, choose **one assignment** and work through these three questions:



After working through the activity, report out: **Where did thinking increase? Where did AI support learning?**



Your Assignment & Final Takeaways

Original Task:
Identify an assignment you currently use.

AI Role: Define what AI will do.

Evaluation Task:
Define what students must evaluate.

Decision Required: Define the decision students must make.

AI supports learning, it does not replace it. Students must evaluate AI outputs critically. Learning must require decisions, not just completion.

Implications for CTE Instruction



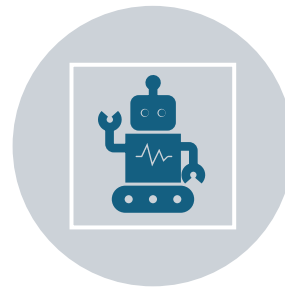
Traditional assignments focused on recall are no longer sufficient.



Students must justify, revise, critique, and defend AI-generated outputs.



Authentic learning now requires evaluation, reflection, and ethical reasoning.



AI integration should deepen learning, not simply speed up tasks.

Final Reflection for Participants

