

Using AI to Enhance Your Safety Training

Part 2: From Tools to Impact

Strategies for creating better instruction while maintaining accuracy, credibility, and compliance.

Presenter: Cari Eloffson-Callahan, MS, CHST
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Where Are You on Your AI Journey?

- Never used AI
- Experimenting occasionally
- Use it regularly
- Advanced user



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Challenges Modern Safety Trainers Face

- Limited Prep Time
- Diverse worker populations
- Frequent content updates
- Need for engaging training
- Strict accuracy requirements

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Session Objectives

- Write clearer, high-context AI prompts tailored to jobsite needs
- Evaluate AI outputs for technical and regulatory compliance
- Apply a repeatable workflow that saves time

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Why AI Literacy Matters

- AI skills are becoming workplace skills.
- Organizations are increasingly expecting employees to:
 - Use AI tools productively
 - Evaluate AI-generated information
 - Protect sensitive information
 - Make informed decisions about AI use



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The U.S. DOL AI Literacy Framework

Foundational Content Areas of AI Literacy

1. Understand AI Principles

2. Explore AI Uses

3. Direct AI Effectively

4. Evaluate AI Outputs

5. Use AI Responsibly

Effective Delivery Principles of AI Literacy

1. Tailored to Audience

2. Interactive

3. Hands-on

4. Practical

5. Iterative

6. Measurable

7. Timely

8. Accessible

1. Understand AI Principles

2. Explore AI Uses

3. Direct AI Effectively

4. Evaluate AI Outputs

5. Use AI Responsibly

We'll use this framework as our roadmap today.

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AI Strengths, Limitations & Your Role

What AI Does Well

- Draft content
- Simplifying information
- Creating examples
- Generating ideas
- Adapting to audiences

AI drafts. You decide.

Where AI Struggles

- Regulatory & technical accuracy
- Real-time safety culture
- Outdated information
- Generated images
- “Hallucinations”

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Ways Safety Trainers Use AI

- **Draft Content:** Toolbox Talks, outlines, case studies
- **Create Visuals:** Hazard recognition, posters
- **Build Quizzes:** Knowledge checks, discussion prompts
- **Adapt Content:** Simplify regulations, adjust for audiences, translation support

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Time Savings Before and After AI

Task	Traditional Time	AI-Assisted Draft
Toolbox Talk	60 min	10 min
Quiz	30 min	5 min
Discussion Guide	60 min	10 min
Handout	45 min	15 min

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Which training task takes up the most of your prep time each week?

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The Core Prompting Formula

- **Role:** Who is AI acting as?
- **Task:** What output is required?
- **Audience:** Who will use it?
- **Tone:** How should it sound?
- **Format:** What should the output look like?

Role

Task

Tone

Audience

Format

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Prompt Evolution - Weak vs. Practical

Prompt progression

"Write a 3-minute toolbox talk on heat illness."

➔ Weak

"Write a 3-minute toolbox talk on heat illness for outdoor workers."

➔ Better

What critical information is still missing?

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Improved Prompt

"Acting as a safety trainer, write a 3-minute toolbox talk for a California landscaping crew working in direct sunlight. Base content explicitly on Cal/OSHA Title 8 §3395 requirements (water, shade, cool-down rest, emergency response). Include 2 real-world discussion questions."

Role

Task

Tone

Audience

Format

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Strengthening the Prompt: Adding Context

- Regulatory: Cal/OSHA, Federal, etc.
- Conditions: Work environment, equipment, hazards
- Goal: What participants should explain, recognize, demonstrate
- Source: Company procedures, manufacturer instructions, training materials

Regulatory

Conditions

Goal

Source

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3-Minute Toolbox Talk: Heat Illness Prevention for Landscaping Crews

Good morning, team.

Before we start work, let's spend a few minutes talking about heat illness prevention. As landscapers, we're often working in direct sun, around reflected heat from pavement, and performing physically demanding tasks. These conditions can cause heat illness quickly if we're not paying attention. Cal/OSHA requires employers to provide water, shade, training, and procedures to protect workers from heat illness. ⁽¹⁾⁽²⁾

Water, Shade, and Communication

The most important things to remember are:

- Drink water frequently throughout the day. Don't wait until you're thirsty. Cal/OSHA requires enough fresh drinking water so employees can drink up to one quart per hour. ⁽³⁾⁽⁴⁾
- Use shade before you feel sick. If you need a cool-down rest, take it. Employees have the right to access shade and take a preventative cool-down recovery period. ⁽⁵⁾⁽⁷⁾
- Stay in communication. If you're not feeling well, tell your lead or supervisor immediately. Working too long can turn a minor issue into a medical emergency. ⁽⁶⁾

Recognize the Warning Signs

Early signs of heat exhaustion may include:

- Heavy sweating
- Headache
- Dizziness
- Weakness or fatigue
- Muscle cramps

Heat Stroke is a Medical Emergency

Watch for:

- Confusion
- Slurred speech
- Loss of consciousness
- Seizures
- Unusual behavior
- Hot skin

If someone shows these signs, call 911 immediately and begin cooling the person while emergency responders are on the way. Do not leave them alone. ⁽⁸⁾⁽⁹⁾

Look Out for Your Coworkers

One of the dangers of heat illness is that the person experiencing it may not recognize what's happening. If a coworker seems confused, unsteady, unusually tired, or isn't acting normally, step in and get help. A buddy looking out for a buddy can prevent a tragedy. High-heat procedures also require employee observation and effective communication when temperatures reach 90°F or higher. ⁽¹⁰⁾⁽¹¹⁾

How to Get Help

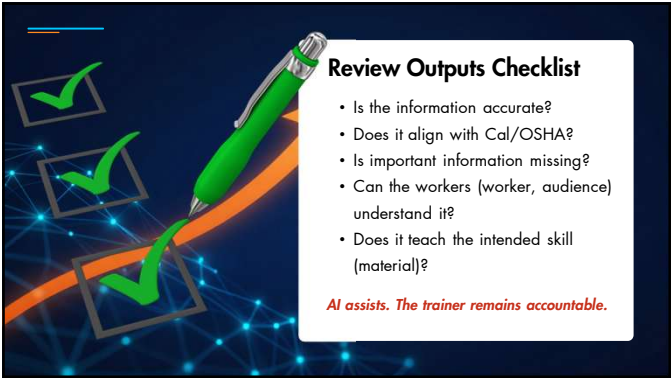
If you experience symptoms:

 Copilot

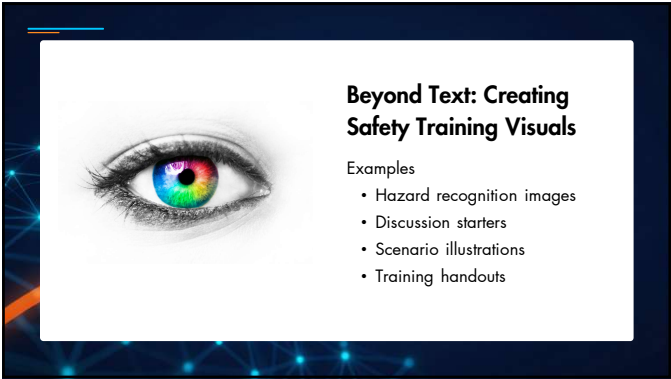
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Cari Elofson cari@makesafetyapriority.com

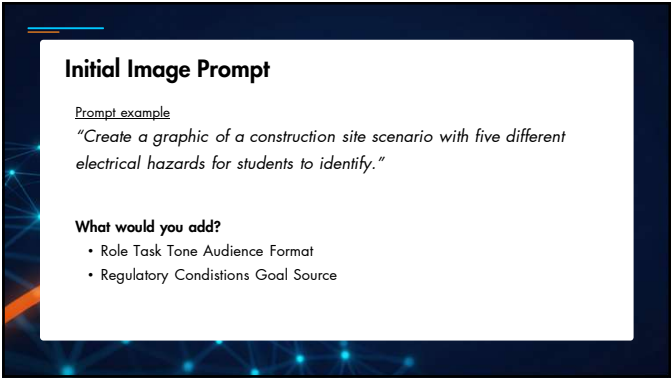
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A slide titled "Review Outputs Checklist" with a green pen icon and a checklist. The checklist items are: "Is the information accurate?", "Does it align with Cal/OSHA?", "Is important information missing?", "Can the workers (worker, audience) understand it?", and "Does it teach the intended skill (material)?". A red line is drawn through the checklist. Below the checklist, it says "AI assists. The trainer remains accountable." in red.

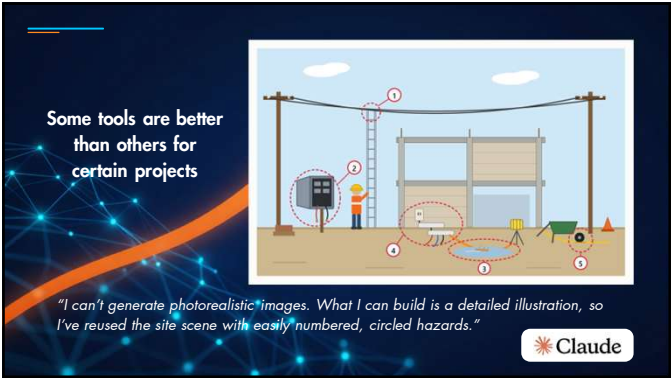
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A slide titled "Beyond Text: Creating Safety Training Visuals" featuring a large eye graphic with a rainbow iris. The text "Examples" is followed by a list: "Hazard recognition images", "Discussion starters", "Scenario illustrations", and "Training handouts".

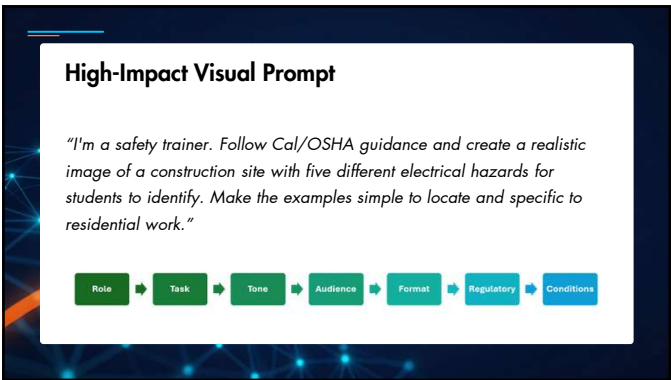
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A slide titled "Initial Image Prompt" with a "Prompt example" section containing the text: "Create a graphic of a construction site scenario with five different electrical hazards for students to identify." Below this, it asks "What would you add?" and lists "Role Task Tone Audience Format" and "Regulatory Conditions Goal Source".

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What looks to be a great response, still needs verification.

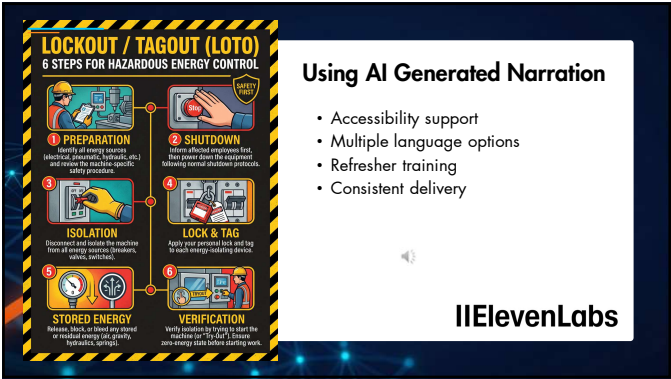
[illegible]

```
graph LR; Role[Role] --> Task[Task]; Task --> Tone[Tone]; Tone --> Audience[Audience]; Audience --> Format[Format]; Format --> AdditionalContext[Additional Context]
```

[illegible] ChatGPT[illegible]



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Safe Content Repurposing Workflow

AI Input

Incident investigation report (anonymized)

AI Output

- Toolbox Talk
- Quiz questions
- Discussion guide
- Refresher lesson
- Supervisor talking points
- Training visual

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6-Step Repeatable Workflow for Safety Trainers

1. Identify Training Need
2. Build Prompt
3. Generate Content
4. Verify Accuracy
5. Customize for Workforce
6. Deliver & Evaluate

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Key Takeaways

- Better prompts create better outputs.
- Always verify AI-generated content.
- Use AI to support, not replace, professional expertise.
- Follow a repeatable workflow.
- Start with one practical application.

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The goal isn't to become an AI expert. The goal is to become a more effective safety trainer by using AI thoughtfully, responsibly, and efficiently.

What's one way you'll try AI in your next training?

Contact:
Cari Elofson-Callahan
cari@makesafetyapriority.com



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Using AI to Enhance Safety Training

Part 2 participant handout

Use AI to reduce preparation time and improve instruction. Your expertise is essential to check accuracy, match the jobsite, and confirm that workers can apply what they learn.

U.S. DOL AI Literacy Framework 1. Understand AI Principles 2. Explore AI Uses 3. Direct AI Effectively
4. Evaluate AI Outputs 5. Use AI Responsibly

Build a useful prompt

Include role, task, audience, tone, and format. Then add the jurisdiction, jobsite conditions, learning goal, and approved source materials.

Reusable template: “Act as [role]. Create [task] for [audience]. Use a [tone] tone and [format]. Address [jurisdiction and jobsite conditions]. Learners should be able to [goal]. Use [approved sources]. Flag missing information rather than guessing.”

Review before you teach

- **Accuracy:** Check technical claims and requirements against current, applicable sources. Verify any citations AI provides.
- **Completeness:** Look for missing steps, assumptions, or details that could change the safety message.
- **Learning value:** Use language workers understand and activities that test the intended skill.
- **Visuals and media:** Check images for unintended hazards or misleading practices. Review narration and translations for meaning and technical terms.

Protect information

Follow company policy for AI use. Remove names and identifying details before using workplace examples. Keep medical records, workers’ compensation details, and proprietary information out of unapproved AI tools.

Use the same workflow each time

Identify the need → Build the prompt → Generate a draft → Verify accuracy → Customize for workers → Deliver and evaluate

AI resources with free options

Training task	Resources
Slide design and visuals	Canva, Perplexity
Lesson planning	ChatGPT, Gemini
Quizzes	Grok, Copilot
Feedback and forms	Claude, Copilot
Interactives	Mentimeter, Kahoot!
Music	Suno
Text to speech	ElevenLabs, Mureka*

Free access has limits; some AI features, downloads, and commercial rights require paid plans. *Check Mureka’s current free speech access. Perplexity supports research and slide ideas. Claude and Copilot can draft form questions.