



Enhancing Training With Video-based Learning Objects

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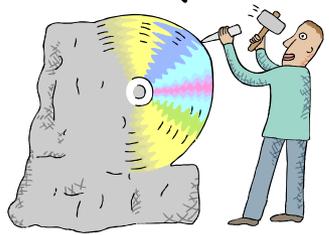
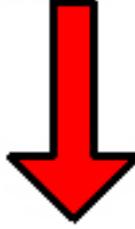
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Where Is This Proposal On The Technology Scale?



Advanced Training Technology Stone Age

Advanced Training Technology Cutting Edge



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What are learning objects?

A learning object is a resource, usually digital, web-based, that can be shared, used and re-used to support learning.

A learning object is the smallest “nugget” of instruction or information that can stand on its own. It focuses on a single learning objective.

Learning objects are simple building blocks that fit into existing training programs.



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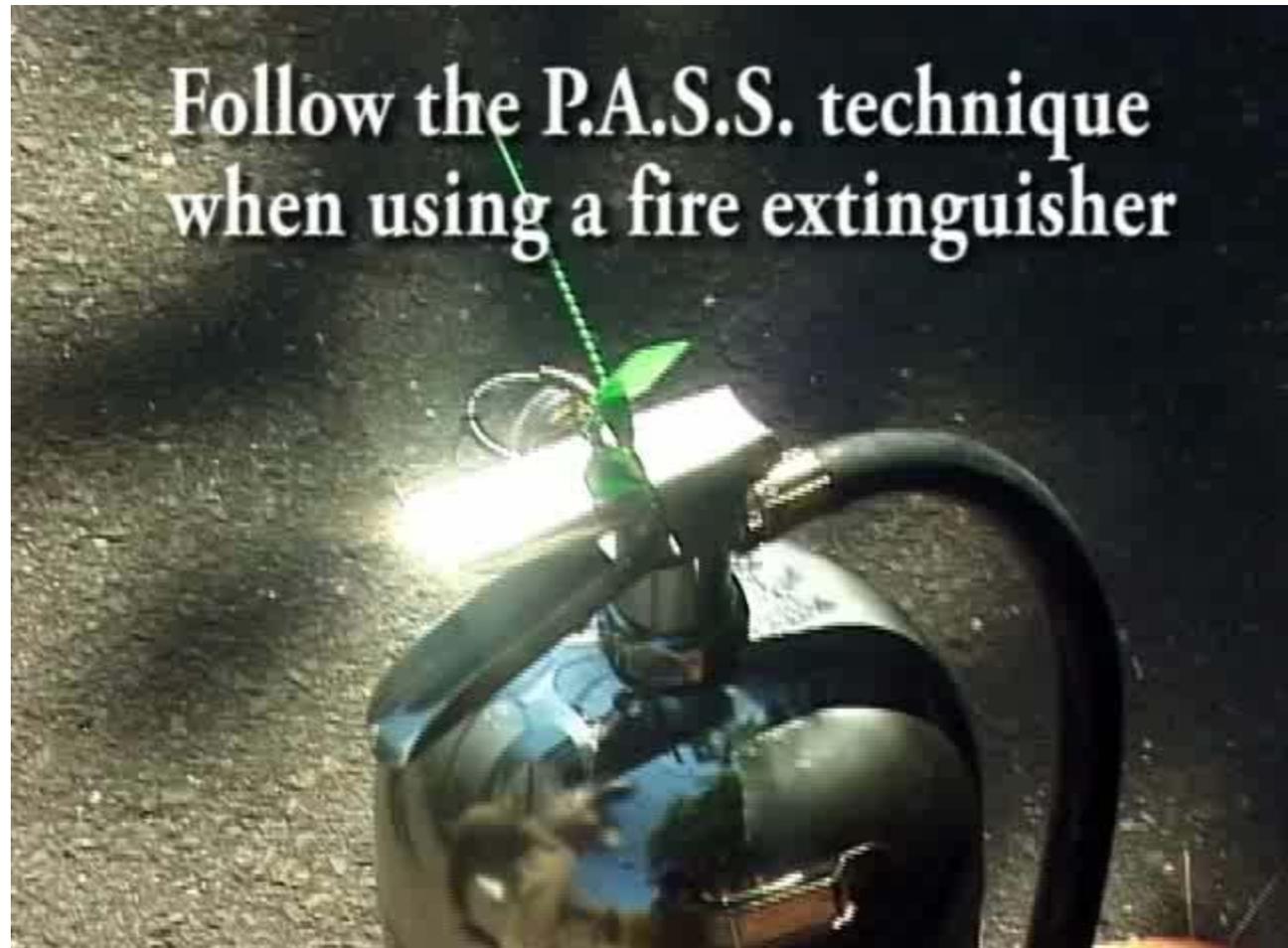
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Example...

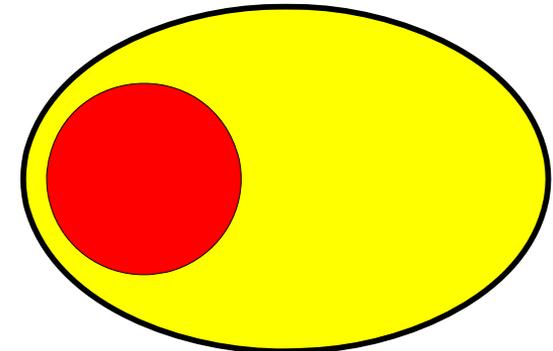
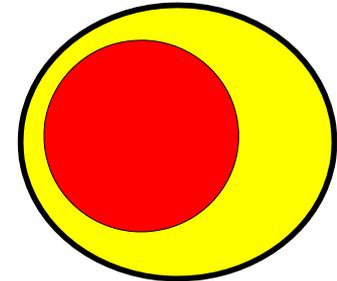
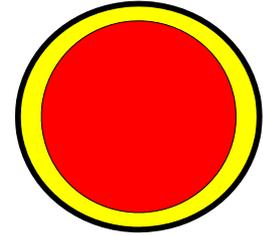


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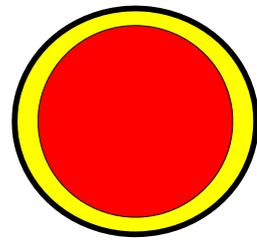
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What are the components of learning objects?

- **Content** - the concept or piece of information being conveyed
- **Context** - how the content applies to the learner's environment

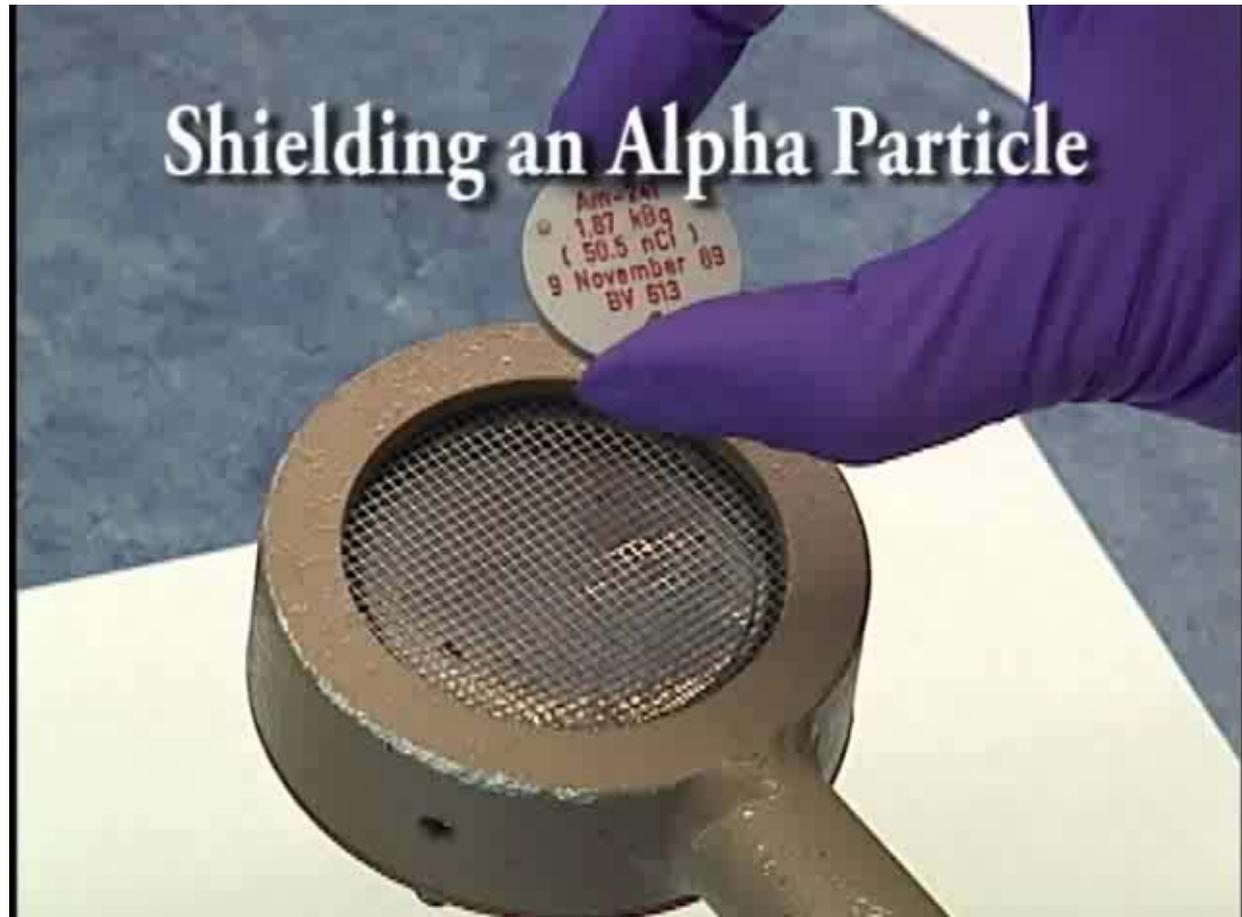
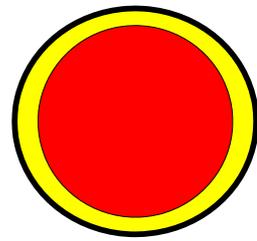


Example... mostly content



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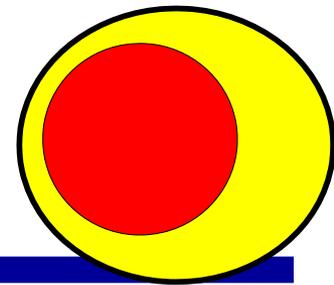
Example... mostly content



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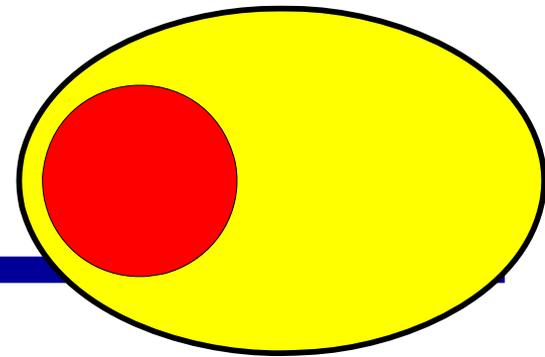
Example... some context



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Example... lots of context



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What makes a learning object valuable?

- Provides a visual representation of a key concept
- Assists trainers convey difficult technical content
- Empowers and strengthens the role of the trainers
- Encourages dialog



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What can learning objects do?

- Demonstrate or illustrate concepts
- Illustrate how to apply a concept in a specific environment
- Shape attitudes
- Assess learning



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Different Designs



Simple objects

single short clip

Compound objects

Description of a task and associated hazards

Question...

Description of a control strategy

Case Study (FACE report)

Question...

Resolution of case study

Peer story

Case Study Part 1

Question...

Case Study Part 2

Question...

Case Study Part 3

Resolution of case study

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Two Steps in Creating Media-Based Training



- Create or obtain the media
- Incorporate the media into a training program with an authoring tool
 - Authoring tool should be:
 - Flexible
 - Allow trainers to pick and choose content
 - Allow trainers to customize content
 - Easy to learn
 - Everyone should already have it

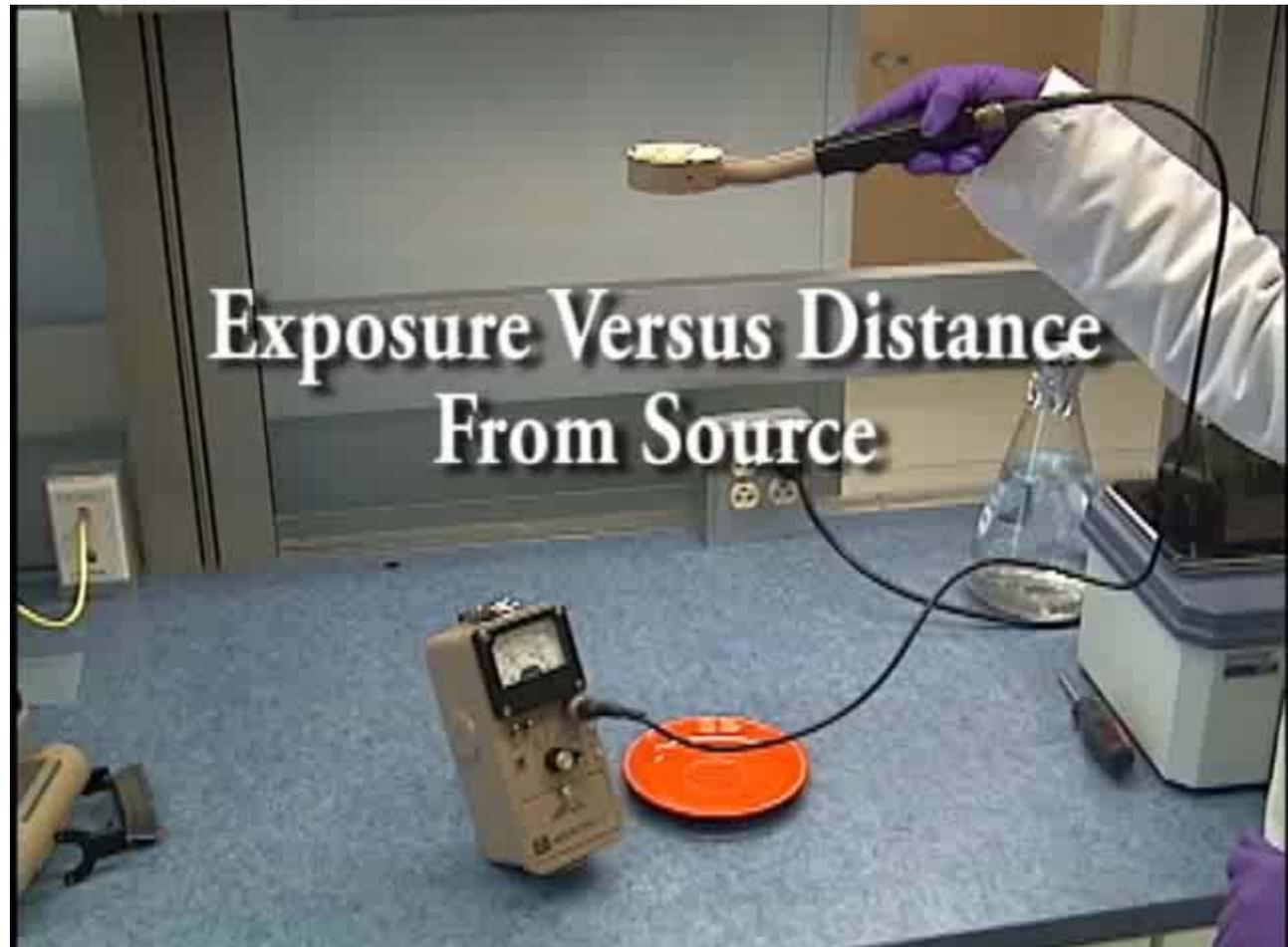


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Assertion – Evidence Design

Assertion - Moving away from a radiation source will significantly reduce your exposure



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Case Study
Propane Release



Case Study
Propane Release

Continued Space Loss Study

☆ 1

Case Study
Propane Release

- What are some of the personnel issues that contributed to this incident?
- What would you do if you observe something unusual while working?
- What actions should be taken immediately following a major release?
- Where can you get information on hazardous materials?
- What is the major hazard represented by this release?
- What must be present for explosion to occur?
- How might the risk of an explosion be reduced in this situation?

Continued Space Loss Study

☆ 2

Case Study
Propane Release



Continued Space Loss Study

☆ 3

Case Study
Propane Release

- Why are the actions (inactions) taken by this technician so dangerous?
- What are the conditions (parameters) that determine if an atmosphere is explosive?
- What instrumentation can be used to determine if an atmosphere is explosive?
- How do you know how far to evacuate from an area?

Continued Space Loss Study

☆ 4

Case Study
Propane Release



Continued Space Loss Study

☆ 5

Case Study
Propane Release

- What are the zones that are placed around a hazardous chemical release and what is the purpose of them?
- What potential ignition sources do you believe are in the area?
- How would you have attempted to eliminate potential ignition sources?
- What do you think happened next?

Continued Space Loss Study

☆ 6

Case Study
Propane Release

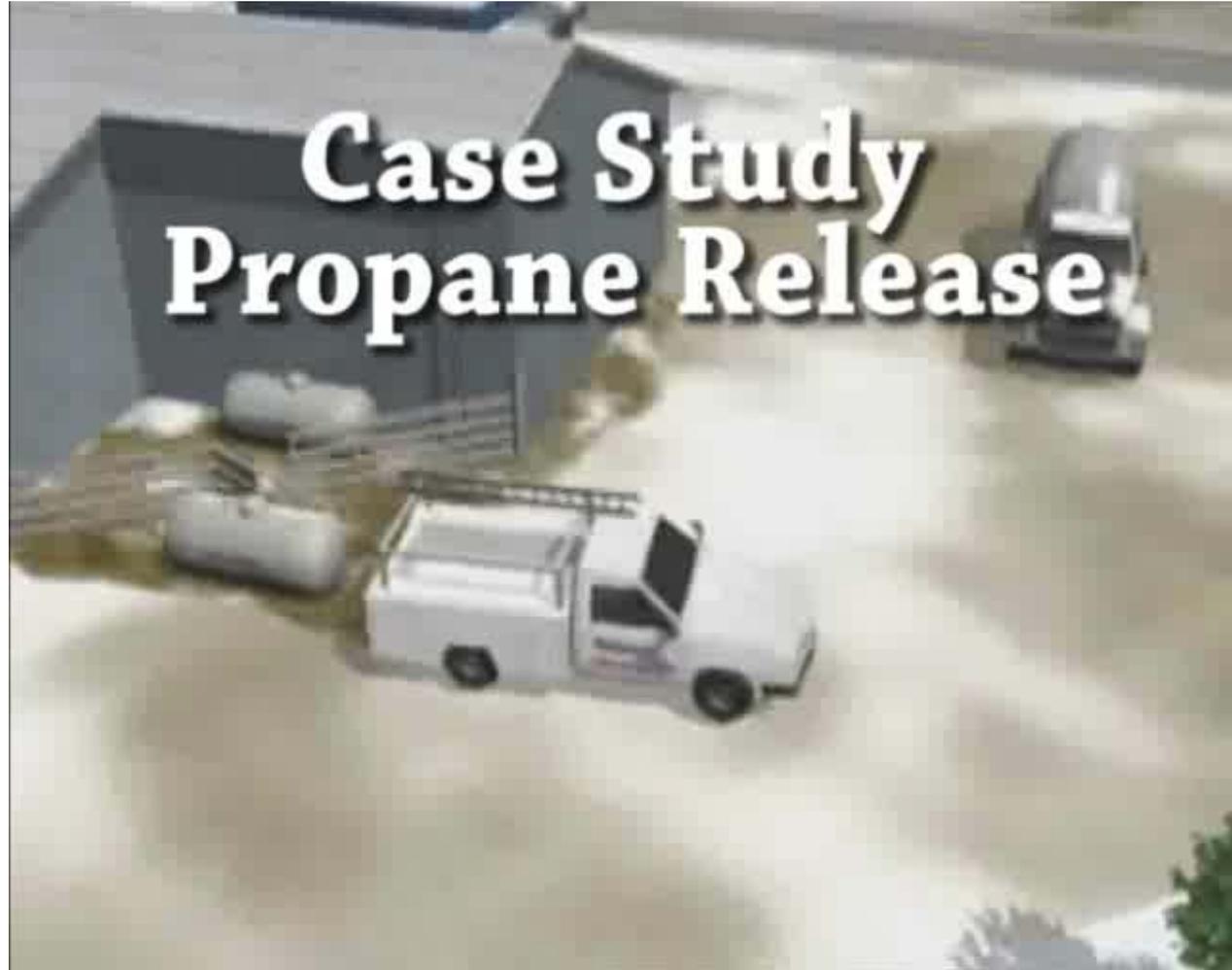


Continued Space Loss Study

☆

Case Study

Propane Release



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Adapted from CSB video by T.C. Ouimet

Case Study

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Where does the media/content come from?



- **Create it (shoot and edit it)**
- **Use existing media (edit it)**
 - **Chemical Safety Board**
 - **Mine Safety and Health Administration**
 - **Canadian and Australian WorkSafe**
 - **British Health and Safety Executive**
 - **Internet Archives and National Archives**
 - **Local TV stations (with permission)**



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Feedback from trainers

- Informal feedback only...
- 8 trainers have rated the 10-12 learning objects I have distributed to date as valuable to very valuable
- Comments include – easily adaptable; encourages dialog; very useful resource



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Next steps...

- Form a partnership to create and distribute objects
- Formally evaluate the effectiveness of various types of learning objects
- Form a steering group to identify high priority content for development
- Develop a community of developers producing content in a common format
- Develop a distribution platform for objects



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