



An Innovative Method of Delivering Laboratory Safety Training to Students

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Services



The Research Question

- How can we *effectively teach laboratory safety principles to students?*

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Why Focus on *Students*?

- OSHA and NIOSH recognize the unique qualities of this population, focus attention on student workers
- Risks
 - 77,000 emergency room visits/year (under age 18) ¹
 - 67 fatalities/year (under age 18) ¹
 - Injury rate (adjusted for time) = 4.9/100 FTE ²
- Hazards ¹
 - Cuts, burns
 - Slips, trips, falls
 - Energized sources
 - Dusts and fumes
 - Biological and chemical hazards

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How to *Effectively Teach Laboratory Safety Principles*?

First, we need to keep in mind our audience

- Students remember 90% of what they learn if they do the job themselves, even if only as a simulation ³
- On average, students (up to age 18) spend ~50 min/day playing video games ³

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How to *Effectively Teach Laboratory Safety Principles?*

We need, then, to consider features that would interest our audience

Educational Features

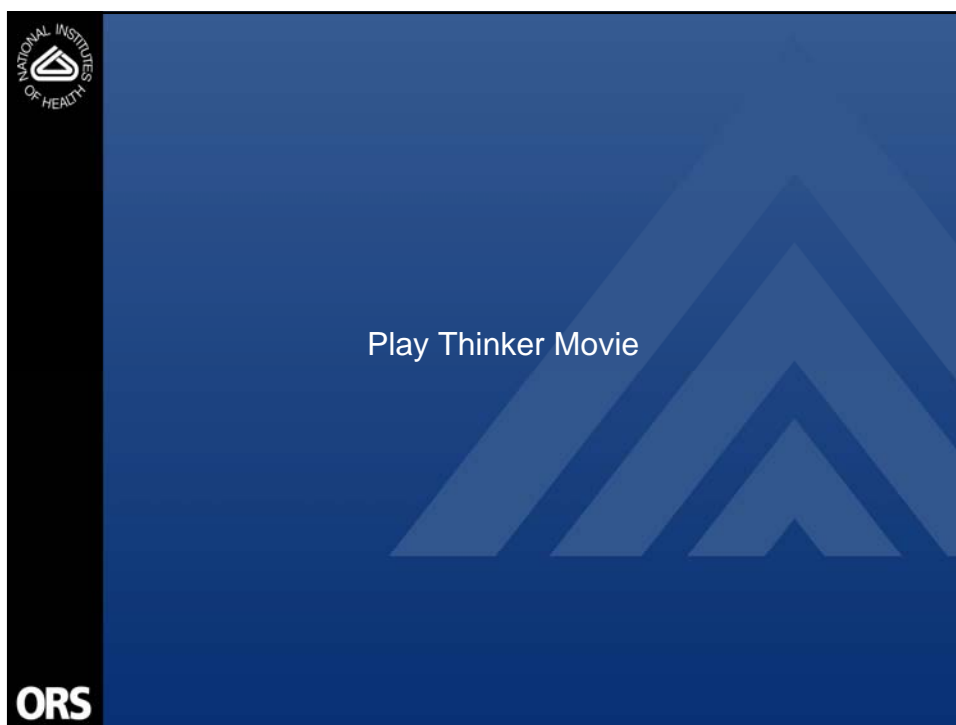
- ✓ Information synthesis
- ✓ Problem assessment
- ✓ Strategic thinking
- ✓ Decision-making
- ✓ Self-direction

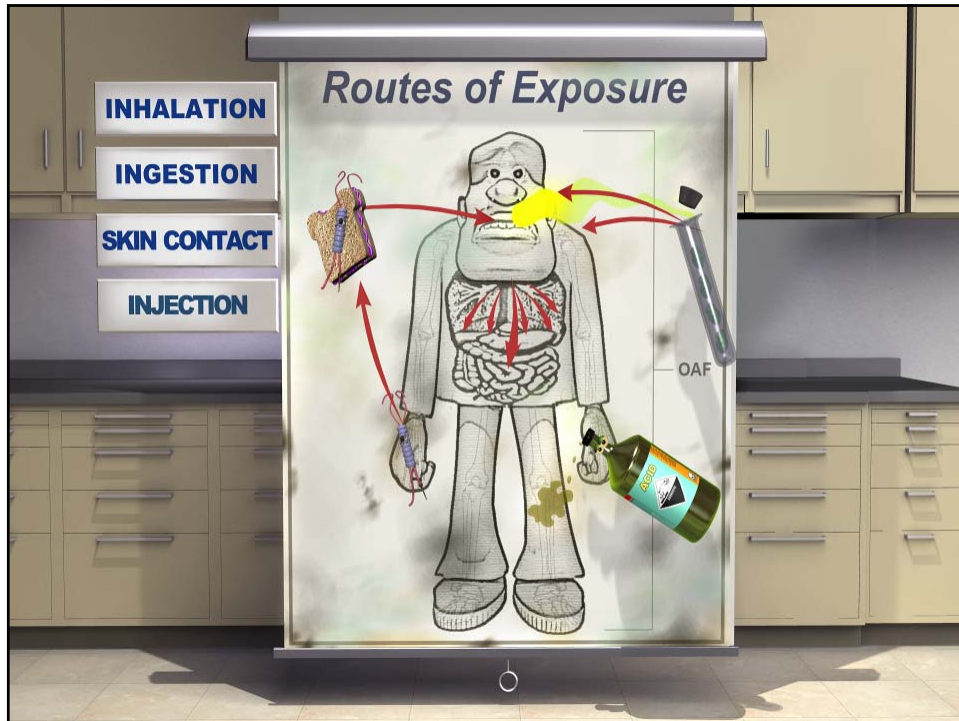
Video Game Features


- ✓ Engaging, interactive environment
- ✓ Consequence-driven tasks
- ✓ Goal-oriented direction
- ✓ Immediate feedback to the user
- ✓ Personalized characters

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 **Next Steps**

- Beta testing through 2007
 - Develop lesson plans
 - Develop teachable components
- Release candidate early 2008

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References

- ¹ NIOSH Alert: Preventing deaths, injuries, and illnesses of young workers. Publication No. 2003-128. July 2003.
- ² Wegman DH, Davis LK. Protecting youth at work. Am Jnl Ind Med. 1999; 36:579-583.
- ³ Harnessing the power of video games for learning. Proceedings of the Summit on Educational Games; 2005 Oct 25; Washington, DC.

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Thank You

- STAR-LITE Team
- Division of Occupational Health and Safety, NIH

