

## Diffusion of Fall Hazard Safety Training for Hard-to-Reach Residential Construction Workers Through the Internet and Utilizing New Media

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### Overview

- Background and Goals of the Training Program
- Overview of the Training Program
- Results to Date
- Conclusions
- Future Research / Activities



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## Acknowledgments

- Training Material Development Grant and Training Grant funded by the OSHA Susan Harwood Training Grant Program.
- Brandon Takacs – Curriculum Development
- Bob Moore - Narration
- Kyle Johnson – Videography and Photography
- Sergio Caporali – Spanish Translation
- Local Residential Contractors

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## Training Program Goals

- Create industry specific training with “real world” field conditions by shooting video of construction in progress, not simulations.
- Create training that has practical and acceptable solutions to hazards encountered.
- Format training modules by phase of construction as opposed to OSHA standards.
- Use photographs and video almost exclusively. Limit text.

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## Training Program Goals

- Offer the training through various delivery mediums (Instructor Led, self guided DVD, downloadable PowerPoint, train-the-trainer) in an attempt to reach the hard-to-reach worker.
- Develop and maintain website specifically for this material. Make the material downloadable and for order on DVD.
- DVD has multiple uses. For use on set top DVD player and computer. DVD includes PowerPoint with and without narration.
- All material includes Spanish text and narration.

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## Research Questions

- Does the training program bring about individual or group behaviors that may reduce the likelihood of falls from heights on residential construction sites?
- Does the technology-based availability and delivery of this training material increase trainee interest and participation?
- Does including feedback into the cycle of training re-development impact the relevance and acceptability of the residential fall protection training material?

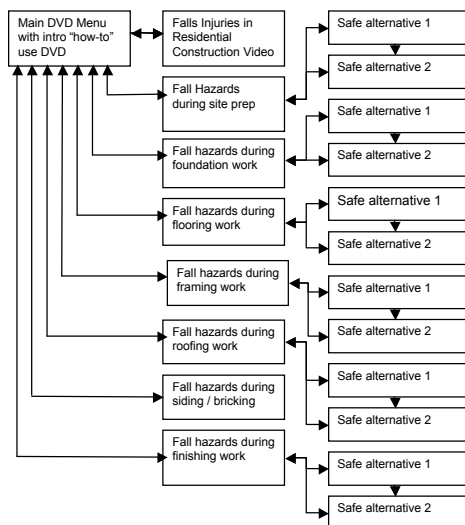
## Overview of Training Content

Select Phase of Construction to Begin Training

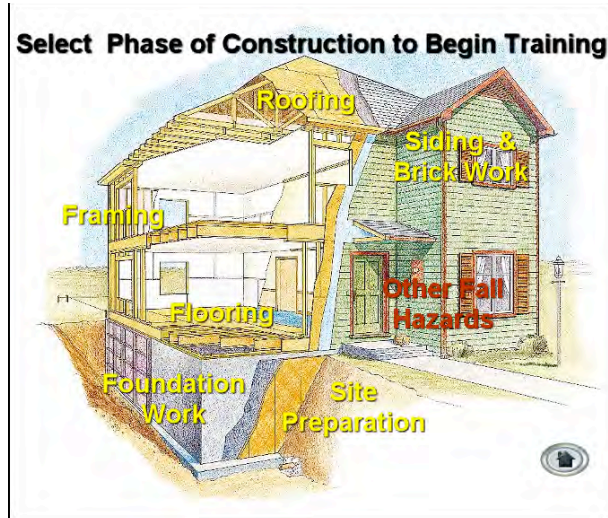


- The Problems with Falls in Construction
- The Basics of Fall Protection
- Site Preparation
- Foundation Work
- Flooring
- Framing
- Roofing
- Siding and Brickwork
- Other Fall Hazards

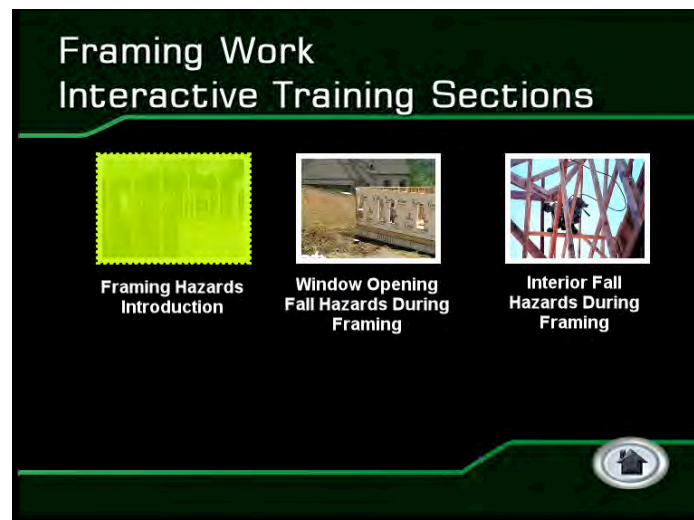
## Self-Guided Training DVD Architecture



## Main DVD Training Content Menu



## Fall Hazards Menu



## Safe Alternatives Menu

Safe Alternatives to Window Opening  
Fall Hazards During Framing



Guardrails

Anchor Point on Wall

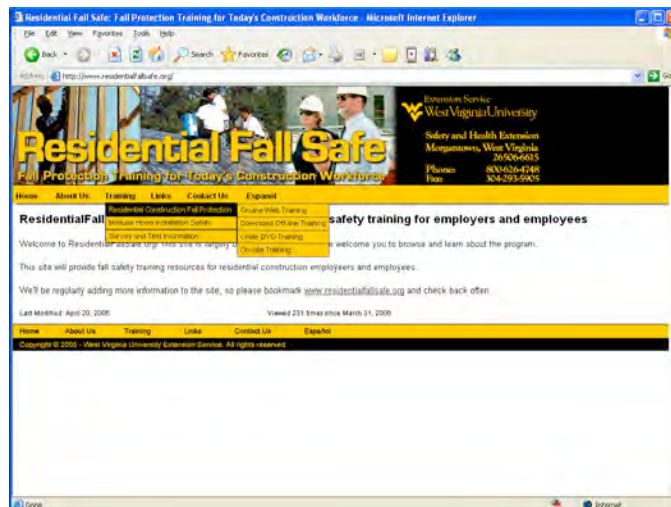
Wall Studs as Fall Protection

Play All Safe Alternatives

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## Residential Construction Website



Residential Fall Safe: Fall Protection Training for Today's Construction Workforce

West Virginia University

Safety and Health Extension  
Martinsburg, West Virginia  
20706-6603

Phone: 800/526-7146  
304/297-6034

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**Residential Fall Safe** safety training for employers and employees

Welcome to Residential Fall Safe. We welcome you to browse and learn about the program.

This site will provide fall safety training resources for residential construction employers and employees.

We'll be regularly adding more information to the site, so please bookmark [www.residentialfallsafe.org](http://www.residentialfallsafe.org) and check back often.

Last Modified: April 20, 2009 Viewed 201 times since March 31, 2009

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## Evaluation Methods

- Pre, Post and Post-Post Tests
- Field Evaluations and Audits
- Interviews
- Web-based and class room questionnaires and evaluations
- Utilized Developmental Research Methodology which includes analysis and revision of the training material throughout each design, implementation, evaluation stage.
- Triangulation of all data collected to answer the research questions.

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## General Results

- Over 300 DVD's distributed through web requests.
- Over 250 individuals completed the instructor led 4 hour course.
- Instructor led curriculum has been revised four times based on student feedback, evaluations, and instructor insight.
- DVD is currently being revised to reflect most recent instructor led curriculum. DVD requires more time between revisions.

## Instructor Led Training Results

- 48.2% increase in scores from pre to post test (n=118).
- Two-tailed P value is less than 0.0001. Change in scores statistically significant.
- 86% of students believed *Always* or *Often* the training addressed fall hazards that they experienced on the worksite.
- 83% will *Always* or *Often* make use of the training on the jobsite.
- 94% agreed that the Safe Alternatives in the training were applicable in the real world.

## DVD Recipients Results

- 92% believed that *All* or *The Majority* of the hazards depicted in the training were “real world.”
- 92% believed that *All* or *The Majority* of the safe alternatives were applicable in the real world.
- Intended Use of DVD:
  - 39%, To train clients
  - 26% To train employees
  - 14% To complete self-guided training
- 706 residential construction workers have been trained by DVD Recipients.



## Demographics

- Instructor Led:
  - 55% were residential construction workers.
  - 32% were residential construction supervisors, foreman or owners.
  - 32% had fallen
  - 12% had been injured from a fall
  - 78% work at heights
  - 60% use fall protection
  
- DVD requests / users
  - No residential construction workers, foreman or supervisors requested DVD
  - 59% were safety trainers, safety professionals, consultants
  - 12% were safety directors
  - 8% had fallen
  - 7% had been injured from a fall
  - 26% work at heights
  - 49% use fall protection

## Technology Demographics

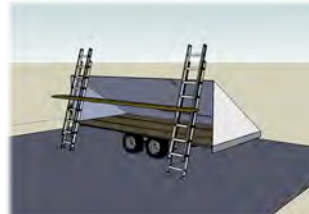
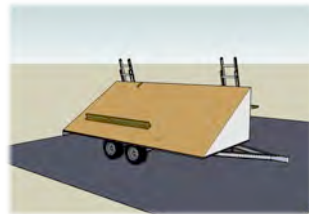
- Instructor Led Students:
  - 99% have DVD player
  - 91% have computer at home / 65% at work
  - 82% use computer
  - 83% have web access / 65% high speed
  - Only 32% have completed web based training
  
- DVD Students
  - 95 % have DVD player
  - 93% have computer with web access
  - 81% have completed web based training

## Conclusions

- The training was effective in increasing knowledge and was accepted as practical for implementation in the field.
- The DVD was a successful medium for delivery and for use by construction workers and safety professionals alike.
- The technology based availability did increase participation.
- Residential construction workers have web access and computer skills but do not seek out web based training.
- The web based availability of the training did not directly attract residential construction workers.
- The web based availability did attract safety professionals and trainers with responsibilities to train residential construction clients or employees.
- Continuous Feedback has led to an improved training curriculum and improved DVD and PowerPoint features and usability.

## Future Research / Activities

- Complete collection and analysis of post-post tests and field audits.
- Complete development and distribution of Version 2 of the DVD and evaluate effectiveness.
- Develop a web based version of the training program and evaluate effectiveness and diffusion.
- Offer training material on iTunesU and YouTube as alternate diffusion method and evaluate effectiveness and diffusion.
- Add a hands-on component to the instructor led training.





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**Thank you**

**Questions?**

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