Refinement and Evolution of the Small Group Activity – problem solving using NIOSH fatality reports

The New England Consortium NIEHS funded since 1987

TNEC approach to training considers adult learners using small group activities and story telling.

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Workshop Objectives

• Participants will know the different modes of learning.

• Participants will learn how small group activities can be refined for deeper analysis and student participation in health and safety training.

• Participants will critique an existing small-group activity and enhance it for more critical analysis and participation.
The Seven Learning Styles

Visual - (spatial): You prefer using pictures, images, and spatial understanding.

Aural - (auditory-musical): You prefer using sound and music.

Verbal - (linguistic): You prefer using words, both in speech and writing.

Physical - (kinesthetic): You prefer using your body, hands and sense of touch.
The Seven Learning Styles

Logical - (mathematical): You prefer using logic, reasoning and systems.

Social - (interpersonal): You prefer to learn in groups or with other people.

Solitary - (intrapersonal): You prefer to work alone and use self-study.
The Hierarchy of Controls

Controlling exposures to occupational hazards is the fundamental method of protecting workers.

Traditionally, a hierarchy of controls has been used as a means of determining how to implement feasible and effective controls. The hierarchy addresses:

- Elimination
- Substitution
- Engineering controls
- Administrative controls
- Personal protective equipment

http://www.cdc.gov/niosh/topics/engcontrols/
(a) Each employer --

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee --

shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.
What is a job hazard analysis?

• A job hazard analysis is a technique that focuses on job tasks as a way to identify hazards before they occur.

• It focuses on the relationship between the worker, the task, the tools, and the work environment.

• Ideally, after you identify uncontrolled hazards, you will take steps to eliminate or reduce them to an acceptable risk level.

From: Job Hazard Analysis  OSHA 3071  2002 (Revised)
Each day, between 12 to 13 U.S. workers die as a result of a traumatic injury on the job.

Investigations conducted through the FACE program allow the identification of factors that contribute to these fatal injuries.

This information is used to develop comprehensive recommendations for preventing similar deaths.
Who

Laborer and Rescue

(Asphyxiation)

19.5 - 23.5%
O₂

Recommendations

- Test air in space for CO
- Use respirator
- Ventilate space before entry
- Pre-plan for rescue
- Rescue Equipt.

Laborer

Struck by cut-off rail

Stabilization

- PPE - hard hat
- Spoils pile location
- Plan
- Hook tank to crane before cutting

Read, Write, Report
Man Stuck Head in Forklift Mast

Bec.
- Seat belt
- Speed
- Spotter
1) DISCUSS WORK AREA SAFETY
2) SHUT OFF POWER IN WORK AREA
3) COMMUNICATION BETWEEN WORKERS
4) SAFETY TRAINING FOR EMPLOYEE
Qualitative Observations

- Students make more critical, detailed recommendations.

- Student participation in small groups is more active and thoughtful.

- Entire class gives greater overall attention to each NIOSH FACE report.
Conclusions

• The more modes of learning applied in training, the greater the opportunity for student participation in health and safety small-group activities.

• This results in overall deeper analysis of health and safety issues for the entire class.