

GMU Mine Supervisor Training Project Team

Memo

To: James Baugher, Educational Specialist, MSHA
cc: Dr. Dabbagh and Dr. Clark
Date: February 13, 2006
Re: GMU Mine Supervisor Training Project Team Update

The purpose of this memo is to address the project updates and activities planned since the presentation on December 15th, 2005 by the GMU mine supervisor training project team. The updates and actions include the combined findings from recently received mine supervisor surveys, the impact from recent mining fatalities, modification of the new generic JTA, mine visit and observation, and next steps.

✚ **Survey findings:** Since the presentation on December 15, 2005, the team received additional mine supervisor surveys. We now have a total of 44 survey responses. A synopsis of the newly integrated results appears below. A complete set of updated survey charts can be viewed at:
http://immersion.gmu.edu/msha/spring2006/documents/Survey_changes_in_Jan_2006.doc

- An increase in the number of mine supervisors with an education of high school or vocational training, 32% of respondents are high school graduates (compared to 19% reported previously), 9% are vocational/technical training graduates (compared to 4% reported previously). Conversely, there was a decrease in the percentage of respondents with some college education or higher.
- Age data is now as follows: 23% of respondents were 20 – 30 years of age, 18% of respondents were 31 – 40 years of age, 29.5% of respondents were 41 -50 years of age, and 29.5% were 51 years of age or older.
- All respondents have access to the Internet at home, at work, or both. However results from the recent respondents indicated a significant decrease in their comfort level with email. In all other categories of computer based tasks, i.e., navigating the Internet, Word Processing, and the use of interactive CD-ROM, the results were consistent with those of previous respondents.
- Training preferences from new respondents were more traditional. Previously, 80% of respondents preferred traditional training formats, 40% ranked Instructor-Led Training (ILT) as first preference and 40% ranked On the Job Training (OJT) as first preference. The remaining respondents were evenly split between online training (10%) and CD-ROM training (10%) as first preference. New combined results revealed that 51% preferred OJT and 33% preferred ILT, raising the percentage of respondents seeking non-technology based training from 80% to 84%. Conversely, online training was preferred by 9% and CD-ROM training was preferred by 7%, an overall decrease in 4% for technology based training.

✚ **Impact from the recent mining fatalities:** The deaths of 16 West Virginia miners in the first four weeks of 2006 have led to the passing of new safety regulations by the state of West Virginia. This legislation requires that mining companies use electronic devices to track trapped miners and stockpile additional oxygen supplies underground. Proposals discussed during the Senate testimony focused on an increase in emergency and rescue methods and technologies. These proposals included additional federal laws requiring coal companies to provide additional oxygen units throughout their underground mines, place walkie-talkies or similar technology in underground locations to facilitate communication with rescuers during an emergency, and have mine rescue teams on site. Although new safety regulations have been passed and additional laws proposed, investigations into the causes of these recent accidents are still ongoing. Therefore, the impact on the MSHA project teams' proposed training is inconclusive at this time.

- ✚ **Modifications to the Generic JTA:** In reference to concerns raised by Mr. Don Conrad regarding the inclusion of additional duties to the current generic JTAs, the design team confirmed that Production duties as they currently appear on the MSHA JTA spiders are contained throughout the detailed generic JTA prepared during the fall semester. The team has collected the feedback provided by our Subject Matter Experts (SME) for future project teams to consider. During the spring semester, the team will focus on developing training modules for Duty 9: Conduct Pre-Shift Examination and Duty 11: Emergency and Unusual Situations.
- ✚ **Mine visit and observation:** The scheduled mine visit on February 2nd and 3rd was canceled due to the recent governor-mandated shutdown of mine production in West Virginia. The purpose of the mine visit was to observe section foremen executing their duties above ground and underground. Observation checklists and interview questions were prepared to aid the project team in gathering information during this visit. The project team is hopeful that we will be able to visit a mine and observe above ground procedures during the upcoming months. However, until that is confirmed the project team is moving forward with the design of training based on the current data.
- ✚ **Next steps:** During the upcoming months the project team will be creating web-based interactive training module prototypes. This process includes refinement of the training design approaches, storyboarding of the prototypes, further development of use cases and content modeling, and development of the training modules. As mentioned above, two mine foreman/supervisor duties from the generic JTA were selected for prototype development, one is procedural - Duty 9: Conducting a Pre-Shift Examination, and the other is problem-solving - Duty 11: Emergency and Unusual Situations (links to the detailed JTA spiders and related documents for the two duties are provided below). The team will be creating a fully functional high-fidelity training prototype for each of these duties. Various delivery platforms and methods such as DVD, Web, and job aids will also be considered. The most recent multimedia technology, Performance-Centered Design (PCD), Usage Centered Design (UCS), and other emerging e-learning methodologies such as distributed learning will be utilized to ensure the effectiveness of the training and the enhancement of learning experiences. The project team will begin conducting usability testing and formative evaluation of the training modules and implement revisions based on the testing and evaluation as time permits.

The GMU MSHA project team would like to thank you for your assistance and feedback to date. We look forward to working with you during the upcoming months and appreciate your continued support and suggestions during the design and development process.

Sincerely,

Jennifer Cochran

Hong Li

Shawn Sullivan

Craig Wiggins

Betty Wilkins

Paula Johnson Williams

Conducting a Pre-shift Examination Links

Word Document – <http://immersion.gmu.edu/msha/spring2006/documents/Duty%209%20Worksheet.doc>

JTA Spider PDF – http://immersion.gmu.edu/msha/fall2005/documents/JTA_PDF/Duty%209%20Conduct%20Pre-shift%20Examination%20v3.pdf

Emergency and Unusual Situations Links

Word Document – <http://immersion.gmu.edu/msha/spring2006/documents/Duty%2011%20Worksheet.doc>

JTA Spider PDF –

http://immersion.gmu.edu/msha/fall2005/documents/JTA_PDF/Duty%2011%20Emergencies%20and%20Unusual%20Situations%20v3.pdf