

Safety Education & Training Portfolio

S415 – Safety Education and Training is a 3-hour course offered to junior and senior level safety majors at Indiana University in Bloomington. Although I have done a lot of safety education and training over the years, the first time I taught a class to students who will later conduct safety education and training courses was during the spring semester 2002. I determined to make the course as practical and relevant as possible, to the extent that the students might actually feel like they have professional experience conducting safety training after graduation but prior to their first industrial/organizational training assignment. It seemed the best way to accomplish this goal was to combine various methods through the semester including textbook readings on the subject, brief lecture and discussions regarding training/educational objectives, identifying potential obstacles to effective training, and developing a trainer evaluation form by the students to evaluate each other. After students understood the basic concepts (about mid-way through the semester), they were instructed to choose from a list of Occupational Safety & Health Administration (OSHA) topics and conduct a mock training in front of the class. These sessions were conducted during the remainder of the semester with a break to bring in a guest speaker on the topic. During the “mock” training, which was conducted by individuals or in teams of two (student’s choice), the rest of the class used the evaluation form they had developed to conduct peer evaluation and rate the presentation (including level of interest and audience participation) on content and delivery. (See Appendix A for complete Syllabus and Course Policies.)

Course Philosophy & Learning Goals

Most of the students who major in safety management will be heavily involved in organizing and conducting safety education and training in their employment upon graduation. For a variety of reasons, it can be difficult for the new graduate in the beginning when they conduct workplace education and training. They may be inexperienced and younger than many employees they train, and confidence and ability are commonly lacking at the beginning. To address this, students need to be exposed to more than simple lectures and readings concerning the theories and concepts of safety education and training. By giving students the opportunity to be involved in the development of an evaluation instrument (with feedback from me), and to participate in a mock training session on a relevant subject, they can better understand what they are trying to accomplish and have the feeling they have some experience (although limited) of classroom training. Learning goals for this course included planning lessons, utilizing effective methods of instruction, locating resources for education and training, actually delivering a safety instruction presentation and evaluating the effectiveness of the presentation.

Students understood they could not simply skip class or “snooze” while their peers conducted the mock training, because they were asked to use the instrument they had developed to conduct peer evaluations. The evaluations were conducted on paper and verbally, immediately following the training, with the understanding that feedback was to be constructive and not personal or demeaning. Students were given individual grades for their evaluations.

I attempted to make assignments and instructions as clear as possible, and to “couch” activities in a manner that students would clearly understand including the objectives of the course and specific assignments. We took time at the beginning of each class session to summarize and emphasize the particular course objective of concentration during that class period. Students clearly understood from the initial class meeting that safety education and training was likely to be a major part of their professional responsibilities, and the course would be highly interactive. I

believe it can be motivational for students to recognize they are performing the same activities in class they will be expected to perform later in the workplace.

Course Activities

The methods I used most in the Safety Education and Training course were short lecture with discussion, small group activities, and student presentations with peer and instructor feedback. Students were also required to complete a number of short readings and share with the class. I strove for an atmosphere in the class that was relaxed and open, yet business-like and efficient.

We also used outside experts for guest lectures to reinforce the content. Two authors of the safety literature resources listed in the syllabus were invited as guest speakers on safety education and training. Students were encouraged (in advance) to ask questions of the “expert” speakers, and afterwards instructed to write a brief paper describing what they learned. The guest presentations were analyzed immediately (after the speaker had left) to pinpoint key points and new concepts learned.

For the purpose of this course portfolio, I will describe in depth two major activities: the development of the Trainer Evaluation Form, which was later used for peer evaluation, a brief summary of their various course readings in front of the class (partly for the purpose of helping students become accustomed to being in front of an audience), and conducting a mock training session on an OSHA topic.

The Trainer Evaluation Form

What was this assignment?

Why do it?

How did it “develop”?

Was it graded? If so, what were the criteria?

Students were divided into teams of three and given an assignment to develop an evaluation form they believed would both be helpful for trainers in general, and that could be used specifically for evaluation of their own projects later in the semester. I gave some suggestions on what I thought good evaluation forms might contain, but left it up to each team to research, discuss, and determine what the checklist should look like. Students were given a participation grade for the evaluation forms they developed (up to 10 points credit). Then, we reviewed the various checklists and with my guidance developed a master trainer evaluation form for use.

I believe the participation and developing the evaluation form helped students to better understand it as an evaluation tool and to be more motivated to achieve the criteria they had assisted in establishing. Later, the evaluation forms were used to evaluate peers on their mock training sessions. Again, students were given participation grades for filling out their evaluation forms and providing immediate verbal feedback to their peers. This encouraged all students to be active participants while individuals or teams conducted their mock training sessions. The grade criteria for evaluations was essentially credit for doing the evaluation, and a composite summary evaluation was developed for each presenter from the evaluations.

The Mock Training Session

The grade criteria for the mock training session was based 60% on planning and preparation (to emphasize to students the importance of spending time in preparation) and included the following specific criteria:

- Clear training objectives
- Discussion of how training would meet OSHA compliance objectives
- Discussion of how training would add value to the organization
- Listing the resource materials that would be used for the training
- Outlining the topics to be covered
- Logical flow of the material
- Methods and techniques that would be used to make the training interactive, interesting, and effective

The presentation delivery was weighted as 40% of the grade for the mock training activity. Specific criteria for the oral presentation included:

- Accuracy of the content
- How interesting and interactive the individual or team made the presentation
- How well the training objectives were fulfilled
- Competent use of media such as handouts, DVD and Video tapes, Power Point, training props, and demonstrations.

Student Evaluations & Influence Beyond the Classroom

Student evaluations rated the “overall quality of the course” at 92.9% compared to all other courses of similar size for the university level. The student percentile rating for the question, “overall, I would rate this instructor as outstanding” was 97.9%.

Student comments were generally very positive. A couple examples follow:

“I liked the course a lot. It honestly helped me improve my knowledge on how to be a much more effective trainer.”

“Dr. Blair has appeared to make extraordinary improvements in his teaching style this year. Very good.” (This was obviously a student who had taken another one of my classes previously. Perhaps the perceived improvement was due to my focused attempt to model the material I was teaching).

One of my students has gone on to teach the same course himself as a graduate student. He appeared to be very excited about the opportunity to teach the course himself and took a lot of pride in developing his syllabus and materials, asking me for feedback.

Examples of Course Products Developed between Students and Instructor

1. **Education vs. Training.** I don’t know if this is an extremely important exercise, but it helped to get students thinking about the difference between training and education. Kim Krisco commented in *Leadership and the Art of Conversation*, that the ability to make distinctions is the key to mastery. Students understood at the beginning of this assignment that they were pinpointing distinctions between training and education although there may be some obvious overlap and exceptions among the distinctions we made.

As an application of my philosophy for this class, we conducted this activity jointly between students and instructor so students were highly involved, just as they will be expected to involve participants when they conduct workplace safety education and training. I tried to model the concepts I taught. (See the “Education vs. Training” final product in Appendix B.)

The final product is a rather comprehensive listing (especially for a one page document) of similarities and differences between education and training. The document can stand alone and isn't difficult to understand, but I tried to bring it to life in class by highlighting the points with examples and illustrations, and asking students to do the same. We also included some best practices for safety trainers as part of the final product. I believe it is a good example of a final product students can use after they graduate. There is always room for improvement and future classes may develop a product that's even more practical and easier to understand and apply.

2. Trainer Evaluation Form. The Trainer Evaluation Form was also developed as a joint activity between the Instructor and students. Students understood from the beginning of the assignment that they would be using the evaluation form to conduct peer evaluations. Students tended to take great pride and ownership in the final product they were involved and participated in.

I believe the evaluation form we developed is an excellent example of the genre. One of the top experts in the safety field commented independently upon being shown the Trainer Evaluation Form that it is a “highly professional document.” Subsequently to the class I used a modified version of the Trainer Evaluation Form in a train the trainer course conducted at various locations with a major corporation. The Trainer Evaluation Form is attached as Appendix C.

The student who made the **excellent** training presentation met all of the objectives of his introduction and content as listed on the trainer evaluation form (See Appendix D). His delivery and training aids were highly effective. There were other individuals who did an excellent job as well, but this individual may have had a bit of an advantage being a non-traditional student who works as a trainer for the Campus Police. He showed a video of a policeman who was killed on the job as recorded by a camera from his patrol car. The student was well-prepared, knew his material well, and kept everyone's attention. However, the audience of participating students were still able to point out areas that could be improved, even to this seasoned trainer. For example, suggestions for improving his delivery included 1) speeding up his presentation, 2) showing more enthusiasm, 3) interacting more with his audience, and 4) waiting for a response after asking questions.

The **good** example (see Appendix E) was from a student who is a good presenter, but didn't seem to be fully prepared for his presentation (possibly because, as I was aware, he was working full-time in addition to taking nearly a full load of courses). This presenter did a lot of things well such as making good eye contact with the audience, having well-organized material, asking frequent questions of the audience, and covering the objectives of his training very clearly. On the other hand, possibly due to lack of preparation time, he read too much straight from the slides (rather than discussing and paraphrasing them). He used a lecture style rather than the interactive style we encouraged such as conducting demonstrations, providing handouts, and leading activities. This student appeared a bit uncomfortable at times in his training role, and his presentation was sprinkled with numerous “ah's” and “uh's.” We suggested he 1) be better prepared, 2) know his material and slides better, and 3) not look at his slides and materials so much.

The final example was a **team of two students** who conducted their presentation together (See Appendix F). As sometimes happens with teams, one of the students was well-prepared and appeared to have done most of the work, whereas the other student seemed to be along for the ride. There was an obvious difference in the quality of the presentation when they switched from the well-prepared student to the slacker. The student who gave the **weak** presentation read straight from his slides and didn't elaborate, couldn't answer the questions the participant students asked about his topic, and generally appeared to be unprepared and overly nervous (I knew the student rather well, and he is ordinarily a highly confident person in these situations). Among the numerous suggestions for improvement were 1) spend more time in preparation, 2) actually practice the presentation at least once before conducting it, and 3) don't simply read your presentation from Power Point slides with no elaboration, examples or explanation. The other student on the team did a very good job and provided humorous stories, good examples, and appeared to be comfortable and knowledgeable about the material.

Course Grades and Evaluation

I was generally pleased with the performance of students on the quality of their presentations and how they performed overall in the course. The fact that the class was relatively small was a contributing factor in getting to know the students personally, and being able to give them individual time and attention. Many of the students were in their final semester, or next to last semester in their major, and were motivated to master the types of presentations they would soon be expected to conduct in an occupational setting. Although there were differences in students' presentation abilities, the few exceptions to the generally good presentations appeared to be due to lack of time expended and/or low effort rather than lack of ability.

There were 18 students in the class, including four grad students. The breakdown of grades included nine A's, six B's and three C's. Evaluation was based on two exams, assignments, and nearly 50% of the grade was based on presentations, including small reading presentations and the final project mock training. Three examples of summary evaluations are attached – one for a student who made an A on her presentation (19/20), one with a B (17/20), and one with a C (14/20). Each evaluation includes the strengths, areas that could be improved and suggestions for improvement.

Potential Curricular Changes and Reflective Comments

I believe the first time I taught this course we did a fairly good job of accomplishing our specific objectives and generally experienced relevant student learning. However, there is at least one methodology that may be useful in making the course more effective the next time I teach it. This methodology would include a form of Mastery Learning involving the following:

Students would be asked to evaluate their own mock training session with a one-page paper describing what they would do differently and how they could make the training more interesting and effective if they were to conduct it again. There may not be enough time to actually conduct the training a second time as a "pre-test/post-test" (depending on the population size of the class), but the paper would force students to focus and reflect upon their content and delivery and how they could improve their competence in future sessions.

Student response to the course was generally enthusiastic. Students took ownership for their presentations and other work, and often sought the professors' advice outside of the classroom concerning how they could improve their work. Students also appeared to enjoy the Safety Jeopardy game we played a couple times during the semester. The game provided an enjoyable and semi-competitive way to enhance education. Part of the purpose of the safety game was to review for the exams, and this evidently worked well as students tended to perform better on those game items that appeared in the exams versus those that had not.

In retrospect, I believe the strength of this course was how it allowed a practical way for students to develop and implement "real world" training. As one student commented in the student evaluations, "I really learned a lot in this course." The structure of the course allowed students to get involved to create their own evaluation instrument, deliver training on a topic that reinforced their learning from other classes in their safety major, and give feedback to each other on how to improve their performance.

As noted earlier, one of the weaknesses of the course was the lack of a pre- and post- training. One thing I may change in the future is to allow students to conduct some sort of "mini-training" near the beginning of the course. We could address a number of elements for the student to improve and work on, prior to the final project of making the full-blown mock training session.

Safety Education & Training **S415 - Section 6066**

Instructor:

Dr. Earl Blair, CSP
HPER 116

Phone: 856-5768
E-mail: blair@indiana.edu

Office Hours:

Monday 2:00 to 5:00 and Tuesday 9:00 a.m. to 12:00 Noon, or by appointment.

Required Text:

Miller, Kenneth L. 1998. *Objective-Based Safety Training*, Boca Raton, FL: CRC Press.

Supplemental: *Keller's Official OSHA Safety Trainer's Program*, 1999. Neenah, WI: J. J. Keller and Associates, Inc.

Course Description:

Review of procedures to develop, operate, and evaluate safety programs for management and employees. Covers all aspects of safety training and occupational safety and health. Discusses how a company's safety training plan can meet federal and state guidelines.

Course Objectives:

Safety Education and Training is designed to provide participants an opportunity to research, develop and present a safety training program with coaching and feedback from the Instructor. A systems approach to training is emphasized to enable students to continually improve training materials and presentation skills.

After completing this course, students will be able to

- Establish goals and objectives for safety education and training
- Plan lessons and units of instruction
- Identify and utilize effective methods of instruction
- Locate and utilize safety resources for education and training
- Deliver a safety instruction presentation
- Evaluate the effectiveness of safety education and training
- Describe how to use safety training for compliance purposes

Student Responsibilities:

1. Attend class (Monday's at 6:00 PM) and be prepared to actively participate.
2. Complete assignments and readings prior to class.
3. Take exams as scheduled to demonstrate learning and knowledge.
4. Deliver a mock safety training class.

Evaluation and Grading:

First Exam	100 points
Final Exam	100 points
Assignments/Quizzes	100 points
Reading & Reporting Summaries	50 points
Training Presentation	50 points
Total Points (approximate)	400 points

Grade Scale:

A+	98 - 100%	C+	78 – 79%	
A	93 - 97%	C	73 – 77%	
A-	90 - 92%	C-	70 – 72%	
B+	88 – 89%	D+	68 – 69%	F = below 60%
B	83 – 87%	D	63 – 67%	
B-	80 – 82%	D-	60 – 62%	

Grades will be posted on Oncourse at <http://www.oncourse.iu.edu/> . Students must **earn** the grade they desire and the final grade will not be based on a “curve.” Grades are based solely on the listed criteria and there are no opportunities for “extra credit.”

Attendance Policy

Regular attendance is necessary to earn a good grade. **Students may not make up in-class assignments and quizzes.** Students cannot earn a good grade without regular attendance, because many points will be earned in class. Many materials not included in the textbook or on Oncourse will be discussed in class and may appear on exams and quizzes.

Ten-Day Rule

It is the responsibility of students to check their grades within ten days after the grades are posted on Oncourse. Any inquiry or dispute over scores or points must be made within ten days of posting. If you fail to protest any score during the time limit, changes to the posted scores will not be made.

Exams

There will be two exams during the semester worth 100 points each. Exams may include multiple choice, true or false, matching, listing, fill-in-the-blanks, or essay and problem-solving questions. Questions may be derived from the textbook, handouts, guest lecturers, readings, and class activities. The professor will conduct a review prior to each exam to discuss the format and key points.

Assignments & Quizzes

There will be a variety of meaningful assignments to assist students in learning the materials. Assignments and quizzes may be announced or unannounced, and will often be conducted in-class.

Students must be present for the class to receive credit for the assignment or quiz – please do not request a make-up unless you have a documented sickness or hardship. In-class assignments will involve group activities and problem-based learning. Students with documented hardship may receive partial credit by turning the assignment in late.

Course Readings, Summaries, and Reports

Students will complete 5 readings, including oral reports, at 10 points each. The following guidelines apply to readings:

1. Students will read 5 articles or book chapters on the topics listed below in addition to the textbook and write a one-page summary of each article or chapter. Due dates will be spaced approximately every two weeks during January through March – see schedule below.
2. The summary must be typed and single-spaced with standard 12-point font and one inch margins all around. The paper must include the complete reference and the student's name. One page is the preferred length, but it is permissible to write an additional half-page if needed to adequately cover the material.
3. The paper should include: 1) a brief summary of the article or chapter, in one or two paragraphs, 2) points especially relevant to safety training and instruction, and 3) an analysis or evaluation of the article.
4. Evaluation will include organization of the written paper, grammar and spelling, neatness, thorough yet brief summary, insight and grasp of the topic in the main points and article evaluation. Papers will be shared and briefly discussed in class.
5. Suggested reading summary topics and due dates follow (you may choose any area of training and education; however, the topics below coincide with the timing of the course materials):

○ #1. Establishing training goals & objectives	January 14, 2002
○ #2. Using training resources & materials	January 28, 2002
○ #3. Understanding the needs of adult learners	February 11, 2002
○ #4. Effective presentation techniques	February 25, 2002
○ #5. Evaluating training effectiveness	March 18, 2002
6. Oral presentation summarizing your reading. Each student will conduct a brief (2 to 3 minute) oral presentation providing 1) the author's premise, 2) key points, and 3) any items of interest from their reading on the due dates. The oral presentation is not to be read from the written summary.
7. Grading criteria: Five points for the written paper on content, style, and format as designated above, and five points for oral presentation of your summary in class.

Option to 5 Readings: Students have a choice between reading five articles/chapters **or** reading one of the books listed under Education, Training, and Research References (page 10 and 11, this syllabus). The books that are appropriate for a book report are marked with an asterisk (*). The book report should follow the same criteria listed above, except 3 to 5 pages are required instead of one page. The points are the same (50 points total: 40 points for the written report, 10 points for 4 to 5 minute informal presentation). The book report is due February 11.

Training Presentation

The final month of the semester (prior to Final Exam week) will be devoted to students conducting mock safety training sessions. Training may be conducted individually or in teams of two – student’s choice. Individual projects will be scheduled for 45 minutes to an hour; team projects will be expected to take an hour and a half to two hours.

Students may choose topics early in the semester; each topic may only be taken once. Topics are limited to those listed below. Students will be expected to use the instructional methods and strategies studied throughout the semester.

Peer evaluations will be conducted during the training projects. Students will develop evaluation checklists from the criteria listed below (as a prior assignment), and will receive credit (assignment points) for participating in-class by evaluating each training project. Peer evaluations will not be used for grading the project however, as this will ultimately be left to the discretion of the instructor.

Grade Criteria for Training Projects:

Planning & Preparation (60%): Written Outline of Training Material must be turned in to Instructor on **March 18** and must include the following:

- Clear training objectives
- Discussion of how training will meet compliance objectives
- Discussion of how training will add value to the organization
- List training resource materials
- Outline topics covered
- Logical flow of materials
- Methods and techniques to make the training interactive, interesting, and effective.

Training Delivery (Oral presentation - 40%):

- Accuracy of the content
- How interesting and interactive the individual or team makes the presentation
- How well the training objectives are fulfilled
- Competent use of media such as handouts, overheads, Power Point, props, demonstrations, etc.

Presentation Topics:

- Confined Space Entry
- Electrical Safety
- Emergency Response
- Ergonomics
- Fire Prevention
- Blood Borne Pathogens
- Fork Lift Safety
- Hand Tools
- Hazard Communication
- Lifting
- Lockout/Tagout
- Machine Guarding
- Personal Protective Equipment
- Fall Protection
- Hearing Conservation
- Slips, Trips, and Falls
- Violence in the Workplace
- Welding, Cutting, and Brazing

Course Methodology

Training is a big part of most safety professional's responsibilities. This course will be highly **interactive** with students performing the very same activities they may be expected to perform in the workplace. A variety of methods will be used to enhance the learning experience. The following methods may be utilized during the course:

- Case Studies and Problem-Based Learning
- Safety "Games" (to enhance learning and entertainment value)
- Audio Visual Materials
- Socratic Method – Thought-provoking questions for discussion.
- Immediate Feedback for some assignments and activities
- Guest Lecturers – The Instructor has invited two of the authors from this syllabus Safety Literature Resource Section to make presentations on their area of expertise in Safety Training.
- Meaningful Assignments – For example, students will be involved in designing the Evaluation Tool for their Safety Presentations.
- Sharing among students of key points from recent articles and research in Safety Training.

Tentative Course Schedule Spring 2002

Note: The schedule is subject to change. Changes will be announced in class. Please check Oncourse for the latest information.

<u>Date</u>	<u>Topic/Activity</u>
January 7	Syllabus Course Expectations Course Overview Rationale for an Effective Safety Training Program Assignment: The Differences and Similarities Between Education & Training Assignment: Read Part One from the textbook
January 14*	First Reading & Report due The Safe Workplace The Learning Environment Regulations Versus Performance
January 21	No Class – Martin Luther King Day
January 28*	Second Reading & Report due Empowering Employees Identifying Organization Needs Assignment: Read Part Two Chapters 5 through 7 Assignment: Develop a one page Handout on “How Adults Learn: The Differences and Similarities Between Pedagogy and Andragogy”
February 4	Assignment due: Handout on How Adults Learn. Discussion: How Adults Learn Barriers to Participation The Role of the Facilitator Read Part Two Chapters 8 and 9
February 11*	Third Reading & Report due Optional Book Reports due Effective Presentation Techniques Alternate Methods of Instruction Read Part Two Chapters 10 and 11
February 18	Safety Training Issues Systems Approach to Training Review for Mid-Term Exam

February 25*	Fourth Reading & Report due Mid-Term Exam Read Part Three from textbook (to end of book) Assignment: Draft a Training Evaluation Form
March 4	Evaluation of Training Effectiveness Training Evaluation drafts due Case Study/Problem-Solving
March 11	No Class – Spring Break
March 18*	Fifth Reading & Report due Mental Risk Assessment Real World Lessons Outline of Training Materials due
March 25	Training Projects as scheduled Student Peer Evaluations
April 1, 8, & 15	Training Projects as scheduled Student Peer Evaluations E. Scott Dunlap, Guest Speaker
April 22	Research Project due (Grad Students) Summary of Materials Course Evaluations Review for Final Exam (comprehensive)
May 1 (Wednesday)	Final Exam 7:15 PM to 9:15 PM as listed in the <u>Schedule of Classes Bulletin</u> , p. 30.

* Reading summaries and presentations due

Student Conduct

Academic and personal misconduct by students in this class are defined and dealt with according to the procedures in the Code of Student Ethics.

Course Evaluation

It is the policy of the School of HPER to evaluate all courses taught through the school. Final student course evaluations will be conducted in a manner that maintains the integrity of the process and the anonymity of evaluators.

Safety Literature Resources

Accident Prevention Manual for Business & Industry: Administration & Programs. National Safety Council, latest edition. **(Chapter 16 and 17 – Safety Training and Audiovisual Media, pages 365 to 412)**

Bird, F. E. & Germain, G. L., 1987. *Commitment.* Loganville, GA: Institute Publishing. **(Adequate training, pages 52-54)**

Bird, F. E. & Germain, G. L., 1985. *Practical Loss Control Leadership.* Loganville, GA: International Loss Control Institute. **(Chapter 11, Employee Training – pages 239 to 262)**

Brauer, R.L., 1993. *Safety and Health for Engineers.* New York, NY: Van Nostrand Reinhold.

Cooper, M.D., 1998. *Improving Safety Culture: A Practical Guide.* New York, NY: John Wiley & Sons. **(Chapter 7, Safety Propaganda and Safety Training - pages 211 to 232).**

Cote, A. E. & Linville, J. L. (Editors) 1996. *Fire Protection Handbook* (17th edition). Quincy, MA: National Fire Protection Association. **(Section 2/chapter 1 – Fire Safety Education, revised by Jan Gratton)**

Daniels, A., 1994. *Bringing Out the Best In People: How to Use the Astonishing Power of Positive Reinforcement.* New York, NY: McGraw-Hill, Inc.

Dunlap, E. S. 2000. *Motor Carrier Safety: A Guide to Regulatory Compliance.* Boca Raton, FL: Lewis Publishers. **(Chapter 12 – Training, pages 111 to 118)**

Ferry, T.S., 1988. *Modern Accident Investigation and Analysis* (Second Edition). New York, NY: John Wiley & Sons.

Friend, M.A. & Kohn, J.P., 2001. *Fundamentals of Occupational Safety and Health* (Second Edition). Rockville, MD: Government Institutes.

Garner, C.A. & Horn, P.O., 1999. *How Smart Managers Improve Their Safety and Health Systems.* Des Plaines, IL: American Society of Safety Engineers.

Geller, E.S., 1996. *The Psychology of Safety: How to Improve Behaviors and Attitudes on the Job.* Boca Raton, FL: CRC Press.

Geller, E.S., 2001. *The Psychology of Safety Handbook.* Boca Raton, FL: CRC Press. **(BBS Training pages 162 through 172)**

Geller, E. S., 2001. *Working Safe: How to Help People Actively Care for Health and Safety.* Second Edition, Boca Raton, FL: CRC Press.

Goetsch, D. L., 1996. *Occupational Safety & Health in the Age of High Technology*, 2nd edition. Englewood Cliffs, NJ: Prentice-Hall, Inc. **(Health and Safety Training, Chapter 23 pages 419 through 453)**

Greenleaf, R. K., 1991. *Servant Leadership: A Journey into the Nature of Legitimate Power and Greatness.* New York: Paulist Press.

Grimaldi, J.V. & Simonds, R.H., 1989. *Safety Management* (Fifth Edition). Homewood, IL: American Society of Safety Engineers. **(Training pages 478 through 493)**

- Hammer, W. 1989. *Occupational Safety Management and Engineering*. Englewood Cliffs, NJ: Prentice Hall.
- Johnson, W.G., 1980. *MORT Safety Assurance Systems*. New York, NY: Marcel Dekker, Inc.
- Keller's Official OSHA Safety Handbook*. Neenah, WI: J.J. Keller & Associates.
- Kohn, J.P., 1997. *The Ergonomic Casebook: Real World Solutions*. Boca Raton, FL: CRC Press.
- Kohn, J.P., Ed., 1998. *Ergonomic Process Management: A Blueprint for Quality and Compliance*. Boca Raton, FL: Lewis Publishers.
- Kotter, J. 1996. *Leading Change*. Cambridge, MA: Harvard Business School Press.
- Krause, T.R., 1998. *The Behavior-Based Safety Process: Managing Involvement for an Injury-Free Culture* (Second Edition). New York: Van Nostrand Reinhold.
- Krause, T.R., General Editor, 1999. *Current Issues in Behavior-Based Safety: How to Make Continuous Improvement a Reality*. Ojai, CA: Behavioral Science Technology.
- Lack, R.W., Ed. 2002. *Essentials of Safety and Health Management*. Boca Raton, FL: CRC Press. **(Chapter 47, Managing Workplace Safety & Health Training; Chapter 48, Safety and Health Employee Training Sessions, and Chapter 49, Developing Effective Presentation Skills, pages 703 to 734)**
- Laing, P.M., Ed. 1992. *Accident Prevention Manual for Business and Industry: Engineering and Technology*. Itasca, IL: National Safety Council.
- Malasky, S.W. 1982. *System Safety: Technology and Application*. New York, NY: Garland STPM Press.
- Petersen, D. 2002. *Authentic Involvement*. Itasca, IL: National Safety Council.
- Petersen, D. 1996. *Human Error Reduction and Safety Management* (Third Edition). New York, NY: Van Nostrand Reinhold.
- Petersen, D. 1989. *Safety Management: A Human Approach* (second edition). Goshen, NY: Aloray, Inc. **(Chapter 19, Behavior Change Through Training, pages 205 through 215)**
- Pierce, F.D., 1996. *Shifting Safety and Health Paradigms*. Rockville, MD: Government Institutes.
- Pierce, F.D., 1995. *Total Quality for Safety and Health Professionals*. Rockville, MD: Government Institutes. **(Chapter 12 – Training, Information, & Communication)**
- Reason, J. 1990. *Human Error*. New York, NY: Cambridge University Press.
- Reason, J. 1997. *Managing the Risks of Organizational Accidents*. Brookfield, VT: Ashgate.
- Roland, H.E. and Moriarty, B. 1990. *System Safety Engineering and Management*. New York, NY: John Wiley & Sons.
- Sarkus, D. J. 2001. *The Safety Coach: Unleash the 7C's for World-Class Safety Performance*. Champion Publishing. (copy in my office, HPER 116)

Slote, L. (ed.) 1987. *Handbook of Occupational Safety and Health*. New York: John Wiley & Sons. **(Part VI: Occupational Safety and Health Training Programs, Pages 405 through 512)**

Stephenson, J. 1991. *Systems Safety 2000: A Practical Guide for Planning, Managing, and Conducting System Safety Programs*. New York, NY: John Wiley & Sons.

Walters, H.A. 1996. *Statistical Tools of Safety Management*. New York, NY: John Wiley & Sons.

Waring, A. 1996. *Safety Management Systems*. New York, NY: Chapman & Hall.

West, G. A. & Michaud, R. W. 1995. *Principles of Environmental, Health & Safety Management*. Rockville, MD: Government Institutes. **(3 elements of successful training, pages 79 to 100)**

Safety Training

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A Partial Listing of Safety and Health Resources on the Internet

Major Safety Associations & Government Organizations

www.asse.org (American Society of Safety Engineers)
www.nsc.org (National Safety Council)
www.osha.gov (Occupational Safety & Health Administration)
www.osh.net (Extensive information about safety and health)
www.cdc.gov/niosh (National Institute of Occupational Safety & Health)
www.bcsfp.org (Board of Certified Safety Professionals)
www.nts.gov (National Transportation Safety Board)
www.safetyhealthmanager.org (National Safety Management Society)
www.system-safety.org (System Safety Society)

Behavioral Safety Resources

www.behavioral-safety.com (Applied Behavioral Science - Dr. Dominic Cooper)
www.b-safe.net (Dr. Dominic Cooper)
www.orr-safety.com (Orr Safety – America’s Safety Net)
www.behavior.org (Cambridge Center for Behavioral Studies)
www.safetyperformance.com (Safety Performance Solutions – Dr. Scott Geller)
www.bst-solutions.com (Behavioral Science Technology – Dr. Thomas Krause)
www.aubreydaniels.com (Aubrey Daniels & Associates)
www.qualitysafetyedge.com (Terry McSween – Quality Safety Edge)
www.davidsarkus.com (David Sarkus International - Safety Consultant)
www.morenoenergy.com/bsp.htm (Moreno & Associates Behavioral Safety Process)
www.topforg.com (Michael Topf – “holistic approach to safety”)

International Organizations

www.hse.gov.uk (Health & Safety Executive – United Kingdom)
www.iosh.co.uk (Institution of Occupational Safety & Health – United Kingdom)
www.hsedirect.com (Subscription to Health & Safety Executive – England)
www.rospa.com (Royal Society for the Prevention of Accidents – England)
www.ccohs.ca (Canadian Center of Occupational Health & Safety)
www.hsa.ie/osh/ (Health & Safety Authority – Ireland)
www.worldsafety.org (World Safety Organization)
www.ishm.org (Institute for Safety & Health Management)
www.asosh.org (Association of Societies for Occupational Safety & Health in South Africa)

Indiana Organizations

www.state.in.us (Access Indiana – Official State Web Site)
www.hoosiersafety.org (Hoosier Safety Council)
www.state.in.us/ISDH (Indiana State Department of Health)
www.in.gov/safetynet/ (Indiana Safety Net – Public Safety)

Safety Research Sites

www.espectat.com (Online Behavioral Safety Software)
www.asse.org/foundat.htm (ASSE Foundation)
www.nsc.org/lrs/statstop.htm (National Safety Council Research & Statistics)
www.libertymutual.com/research (Liberty Mutual Research Center for Safety & Health)
www.esh.bnl.gov (Brookhaven National Laboratory – S&H Services Division)

Safety Products, Training and Services

www.orr-safety.com (Orr Professional Services)
www.ergonauts.com (Lean Ergonomics & Kaizen)
www.coastal.com (Coastal Safety Materials and Services)
www.dnvtraining.com (DNV Management Systems)

www.jjkeller.com (J.J. Keller & Associates)
www.ambest.com/safety (A.M. Best Safety & Security Directory)
www.labsafety.com (Lab Safety Supply)
www.cpsc.gov (U.S. Consumer Product Safety Commission)
www.free-training.com (Free Training Programs, including Safety)

Safety Publications: Journals & Magazines

www.asse.org (Professional Safety Journal)
www.ohsonline.com (Occupational Health & Safety magazine)
www.occupationalhazards.com (*Occupational Hazards* magazine)
www.ishn.com (*Industrial Safety & Hygiene News*)
www.aiha.org/TheSynergist/index.html (The Synergist Online)
www.safetymags.com (Official IOSH magazine, The Safety and Health Practitioner)
www.ohse.co.uk (OHS&E - The Journal of Occupational Health)
www.hspublishing.com/hsworld/ (Health & Safety World)
www.compliancemag.com (Compliance Magazine)
www.safetypages.com (Safety and Publications)
www.oshonline.com (Occupational Safety & Health Online)

On-line Safety Information

www.nsc.org/library.htm (National Safety Council Online Resources)
www.kelleronline.com (J. J. Keller's interactive site for safety regulations & information)
www.safetyontheweb.com (Safety Information)
www.uksafety.net (UK Safety Network – Links to over 400 safety sites)
www.stats.bls.gov (Safety Statistics)
www.safetyonline.com (Safety Information & Articles)
www.safetyinfo.com (Subscription Service – “World's Largest Online Safety Library”)
www.safetyvillage.com (Safety Program Assistance)
www.europe.osha.eu.int (European Occupational Safety & Health)
www.msdssearch.com (Material Safety Data Sheet Search)

Ergonomics

www.ergonext.com (ErgoNext.com – lots of useful information)
www.ergoweb.com (Latest news & info about ergonomics)
www.hfes.org (Human Factors & Ergonomics Society)
www.ergonomics.org.uk (The Ergonomics Society, England)
www.ergonauts.com (Ergonauts Performance Technologists, LLC)
www.humantech.com (Ergonomics Consultants)

Industrial Hygiene

www.acgih.org (American Conference of Governmental Industrial Hygienists)
www.aiha.org (American Industrial Hygiene Association)
www.industrialhygiene.com (Private site – Grady Russell – over 1400 links)

Fire Safety

www.nfpa.org (National Fire Protection Association)
www.sfpe.org (Society of Fire Protection Engineers)
www.industrialrisk.com (Industrial Risk Insurers)

Academic Safety Sites

www.hper.indiana.edu/ahs/ (Indiana University – Department of Applied Health Science)
www.hsph.harvard.edu (Harvard School of Public Health)
www.murraystate.edu/cit/osh/osh.htm (Murray State Univ. Dept of Occupational Safety & Health)
www.eku.edu/fse (Eastern Kentucky University – Fire & Safety Education)
www.hhs.iup.edu/sa/ (Indiana University of Pennsylvania – Dept. of Safety Sciences)

www.mdx.ac.uk (Middlesex University Occupational Health and Safety Degrees)
www.safety.ed.ac.uk (University of Edinburgh Health & Safety Services)
www.cmtc.net/ohs/ (Central Maine Technical College – OHS Distance Learning)
www.sosu.edu/st/tech/ (Southeastern Oklahoma State University)
www.tsjc.ccooes.edu/osh/ (Trinidad State Junior College)
www.cast.ilstu.edu/hsc/safety/shome.htm (Illinois State University)
www.rit.edu/~804www/ (Rochester Institute of Technology)

Industrial Sectors

www.utilitysafety.com (Utility Safety magazine)
www.nts.gov (National Transportation Safety Board)
www.chsg.co.uk (Construction Health & Safety Group)
www.ciria.org.uk (Construction and Environmental Safety)

Motor Vehicle Safety

www.aaafoundation.org (AAA Foundation for Traffic Safety)
www.drivers.com (The “world’s leading site on drivers & driver behavior”)
www.carsafety.org (Insurance Institute for Highway Safety)
www.roadrunning.com (What, where, & how to drive – driving tips)
www.bondurant.com (Bob Bondurant’s School of High Performance Driving)
www.madd.org (Mothers Against Drunk Drivers)
www.nhtsa.dot.gov (National Highway Traffic Safety Administration)
www.nsc.org (National Safety Council)
www.topdriver.com (Driver Education Company)
www.drivertrainingassociates.com (Driver Training “for responsible driver behavior”)
www.roadragers.com (Site devoted to Road Rage Topics)
www.edmunds.com (Articles and news about cars, including safety)

Risk Management Sites

www.rims.org (Risk & Insurance Management Society)
www.esis.com (Division of ACE – USA: “full range of risk management services”)
www.esis.com/rcs/isa (International Safety Academy – Loss Control Training & Services)
www.amerrescue.org (American Rescue Team International Website)
www.parma.com (Public Agency Risk Managers Association)
 Additional sites are listed at www.osh.net

Safety-Related Sites

www.os.dhhs.gov (Department of Health & Human Services)
www.nih.gov (National Institutes of Health)
www.taproot.com (Taproot Systems for Investigations, Causal Analysis)
www.ansi.org (American National Standards Institute)
www.apa.org (American Psychological Association)
www.aohn.org (American Association of Occupational Health Nurses)
www.orc-dc.com (Organization Resources Counselors – Washington, D.C.)
www.safety-at-work.co.uk (Safety resources and regulations – Great Britain)
www.cdc.gov (Centers for Disease Control)

Training Performance

www.bobpikegroup.com (The Bob Pike Group)

Education vs. Training S415

Similarities: Most of the time, or often -

- Involves teaching and instruction
- Involves learning
- Costs money
- May be viewed as an investment
- Is time consuming
- Includes an instructor and a student
- Involves feedback
- Involves evaluation
- Takes effort

Differences Between: Common, or “tends to be...” (obvious overlap and exceptions)

<u>Education</u>	versus	<u>Training</u>
Mind process		Hands-on process
Knowledge gaining		Skill proficiency
Memorize/absorb information		Practice and repetition
Delayed feedback		Direct feedback
Learn from “book”		Learn from doing
Take a paper test		Demonstrate task (learning)
Reasons why to do....		Methods how to do...
Learn about goals		Work to achieve goals
Written evaluation		Perform to standards
Learning process		Action process (motor skills)
Teaching		Coaching
Often elective		Often mandatory
Self-directed		Other-directed
Broad based		Specific
Long-term		Short-term
Liberating		Uniform
Enhancing differences and variances Between learners		Reducing variances of performance between learners

Best Practices for Safety Trainers:

Communication – Help employees relax, gain interest, communicate effectively

Consistency – Information presented is compatible with what is taking place in the workplace.

Commitment – The organization is committed to providing resources needed and follow-up to training to help employees remember and regularly use the information.

Creativity – Maintains interest, helps solve problems, and adds to the perception the training is a value added function.

Clear Accountability – Explicit expectations are established regarding each person’s role and responsibilities once training has been completed.

S415 - Trainer Evaluation Form

Trainer's Names _____

Evaluator _____
Date _____

Introduction

Score _____

Remarks:

- | | | |
|-----------------------------------|-----|----|
| • Introduces self as appropriate? | Yes | No |
| • Clearly stated objectives? | Yes | No |

Content

Score _____

- | | | |
|--|-----|----|
| • Does Trainer(s) appear well prepared? | Yes | No |
| • Is knowledgeable about the topic? | Yes | No |
| • Is the content accurate? | Yes | No |
| • Is the content relevant and valuable? | Yes | No |
| • Does the training meet the purpose
And stated objectives? | Yes | No |

Delivery

Score _____

- | | | |
|--|-----|----|
| • Does the Trainer(s) make eye contact with the class? | Yes | No |
| • Speaks clearly and loudly enough to be understood? | Yes | No |
| • Appropriate pace? | Yes | No |
| • Use a variety of methods (not just lecture)? | Yes | No |
| • Enthusiastic? | Yes | No |
| • For Teams – all partners contribute? | Yes | No |

Training Aids (as appropriate)

Score _____

- | | | |
|--|-----|----|
| • Effective handouts? | Yes | No |
| • Quality audio-visual materials? | Yes | No |
| • Demonstrations relevant and effective? | Yes | No |

Audience Interest & Participation

Score _____

- | | | |
|---|-----|----|
| • Did the trainer(s) grab and maintain attention? | Yes | No |
| • Attempt to involve the audience? Asked Questions? | Yes | No |
| • Was the training interesting and interactive? | Yes | No |

1. **Strengths** of the presentation:

2. Areas that **could be improved**:

3. **Suggestions** for improvement:

Evaluation Exhibit D

Name: **XXXXXXXXXX**
Mock Training Presentation
“Workplace Violence”

Date: 4/1/02

Summary of Comments

Strengths:

- Well dressed, prepared, and professional
- Smooth communication skills – good presenter
- Very knowledgeable about topic
- Attention-grabbing video
- Easy to listen to

Areas that could be Improved:

- Presentation lagged (too slow) on some slides
- Minor points – hand fidgeting, rocking motion
- Presentation too long (for NCAA Finals night?)
- Asked questions but didn't wait for response

Suggestions for Improvement:

- Show more enthusiasm for the training
- Interact more with the audience
- Consider speeding up pace
- Wait for response after asking questions
- Great job overall!

Presentation Score: 19/20

Evaluation Exhibit E

Name: **XXXXXXXXXX**
“Mock Training Presentation”
Electrical Safety

Date: 4/22/02

Summary of Comments

Strengths:

- Good eye contact/relation with audience
- Gave good examples/demonstration/visual
- Nice slide presentation
- Lot of information, well organized
- Smooth presentation style
- Good reassurances – made sure everyone understood material
- Asked frequent questions of audience
- Told at the beginning what would not be done

Areas that could be Improved:

- Used a lot of “ah’s and uh’s”
- Too much information on some of the slides near end
- Read too much from slides
- Too much “lecture style” – not enough demo, handouts, etc.
- Appeared a little uncomfortable at times

Suggestions for Improvement:

- Keep information short and to the point
- Quicken the pace
- Spell check slide presentation
- Be more familiar with slides
- Eliminate or reduce “ah’s and uh’s”
- More preparation
- Don’t look at and read slides so much

Presentation Score: 17/20

Exhibit F

Names: JXXX and KXX
Mock Training Presentation
“Fork Lifts”

Date: 4/8/02

Summary of Comments

Strengths:

- Opening – good use of interesting and humorous stories
- Good slides and handouts
- Good information

Areas that could be Improved:

- Pace too fast
- Appeared to be first time through the presentation
- One trainer read from the slides
- One trainer could have been more familiar with the material

Suggestions for Improvement:

- Develop own outline
- Ask more questions (asked one)
- Slow down and relax
- Put fewer words on slides
- Don't simply read from slides
- Prepare, prepare, prepare
- Practice, practice, practice

Presentation Score:

JXXXX – 18/20

KXX – 14/20