



# WHITE PAPER

## Relatively Speaking: the ROI of Safety Training

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Online training that incorporates learning management functionality can generate a relatively high Return on Investment (ROI) when compared to instructor-led training alone. The combination of online and classroom training (blended learning) offers even more cumulative benefits. Additionally, ROI as it relates to training in general includes a substantial "soft" component that is difficult to quantify, much less relate to a hard ROI number.

Statistics that report the cost of unintentional injuries are readily available from sources such as the National Safety Council (<http://www.nsc.org>). Although this paper centers on the ROI of online safety training versus conventional classroom instruction, a quick review of the cost of unintentional injuries might serve to emphasize the importance of safety training as it relates to ROI.

### Motor Vehicle Injuries:

The calculable costs of motor-vehicle crashes are wage and productivity losses, medical expenses, administrative expenses, motor vehicle damage, and uninsured employer costs.

#### Average Economic Cost per Death, Injury, or Crash, 2003<sup>1</sup>

Death	\$1,120,000
Nonfatal Disabling Injury	\$45,500
Property Damage Crash (including non-disabling injuries)	\$8,200

Even with comprehensive insurance coverage, a fatal crash involving an employee and a company vehicle can prove financially disastrous to an organization. The average cost of an online defensive driving course is about \$50 and takes approximately 3-4 hours to complete; while there is no guarantee that participation in a defensive driving course would prevent an auto accident, the wisdom of incorporating such a program is irrefutable.

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<sup>1</sup> Estimating the Costs of Unintentional Injuries, 2003 - National Safety Council Website

### **Other Injuries:**

The table below shows the per-case average cost of wage and productivity losses, medical expenses, and administrative expenses from non-motor vehicle injuries.

#### **Average Economic Cost per Death, Injury, or Crash, 2003<sup>2</sup>**

	<b>Death</b>	<b>Disabling Injury</b>
Home injuries	\$880,000	\$11,500
Public injuries	\$880,000	\$9,400
Work injuries	\$1,100,000	\$35,000

### **In the Workplace**

According to NSC statistics<sup>3</sup>, there were 4500 workplace fatalities in 2003 that were due to unintentional injuries. On the job, 3.4 million American workers suffered disabling injuries.

Work injuries cost Americans \$156.2 billion, or an average of \$1,120 per worker.

In the same report, one of the NSC's primary recommendations for reducing workplace deaths and injuries included ***instituting a greater educational effort by American companies with their work forces.***

### **Traditional Classroom Training**

Based upon the above 2003 workplace injury statistics, a health and safety training program of any delivery type should provide for substantial training ROI; still, the following expenses and shortcomings inherent in traditional classroom training programs can be significantly reduced or eliminated when an online training component is incorporated as part of a total health and safety training program:

- **Travel expenses to and from classroom facilities:** Overnight travel usually includes lodging, meals, car rental expenses, mileage costs, etc.
- **Facility costs associated with maintaining classrooms:** Instructor costs, equipment such as projectors, PCs, PA systems, food and beverages, janitorial services, utility charges, etc.
- **Loss of time on the job:** Classroom training temporarily removes workers from their jobs causing loss of productivity, and in some cases morale issues when other workers are enlisted to provide job coverage for the absent employee.
- **Manual record-keeping and test grading:** Test scores, completion status, attendance data all must be entered manually, usually by the instructor. Manual data entry is error-prone, and creates a tedious, unproductive task for the trainer.
- **Lack of reporting tools:** Classroom training records are usually stored in spreadsheets or other electronic documents. Even though the raw data may be stored away and archived, accessing the data in any meaningful structured way usually requires programming of some kind. World-class online learning management systems such as FirstNet Learning's Knowledge@Work® Training Center include a multitude of pre-formatted reports that can instantly provide valuable training statistics and information to administrators and managers.
- **One pace of learning for all:** All of the students in the classroom must adjust to the instructor's pace – some must adjust up and others down.

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<sup>2</sup> Estimating the Costs of Unintentional Injuries, 2003 - National Safety Council Website

<sup>3</sup> [Injury Facts](#)® 2004 – National Safety Council

### Quantifying ROI – Blended Learning

The ROI of online health & safety training can be mathematically expressed as:

$$\text{ROI} = \frac{\text{Total cost savings resulting from injury reduction}}{\text{Training expense}}$$

For the purpose of illustration, let's plug in some numbers that could apply to the average organization engaged in health & safety training. Let's assume it's a 100-employee manufacturing company with field offices scattered throughout the US. The corporate office has two classrooms and employs two trainers. 50 employees travel to train twice a year and spend 3 days away from their normal jobs. Expenses are applied conservatively:

#### Expenses Associated with a Classroom-Only Training Program

Travel expenses for 50 employees to train twice a year (\$1,000 per trip):	\$100,000
Instructor (2) costs (\$50K salary/instructor + benefits)	\$200,000
Facility costs (food, beverages, classroom upkeep, etc)	\$10,000
Loss of time on the job (50 employees, 6 days a year, \$40/hour)	\$96,000
<b>Total (annual expense)</b>	<b>\$406,000</b>

Now let's assume that this same organization institutes an online training program, and let's also assume that online training eliminates one classroom trip a year. It's also reasonable to predict that one of the instructor positions may now be utilized more productively elsewhere:

#### Expenses Associated with a Blended Classroom/Online Training Program

Annual expenses associated with a hosted, online training system (ex. FirstNet Learning's Knowledge@Work® Enhanced Training Center + 5 courses/employee)	\$10,000
Travel expenses for 50 employees to train once a year (\$1,000 per trip):	\$50,000
Instructor (1) costs (\$50K salary/instructor + benefits)	\$100,000
Facility costs (food, beverages, classroom upkeep, etc)	\$5,000
Loss of time on the job (50 employees, 3 days a year, \$40/hour)	\$48,000
<b>Total (annual expense)</b>	<b>\$213,000</b>

Based upon the above fictitious but plausible scenario, training ROI can be potentially doubled by incorporating an online training component into an overall training initiative.

Let's apply average injury expenses to the above:

$$\text{ROI (classroom only)} = \frac{100 \text{ employees} \times \$1120 \text{ ave. cost per employee per year}}{\$406,000} = -360\%$$

$$\text{ROI (blended)} = \frac{100 \text{ employees} \times \$1120 \text{ ave. cost per employee per year}}{\$213,000} = -190\%$$

Now let's assume the worst-case scenario that a fatal on-the-job accident was averted because of the adoption of a classroom-based course in "Fall Prevention":

$$\text{ROI (classroom only)} = \frac{\$1,100,000 + \$112,000}{\$406,000} = +300\%$$

Now the same scenario with an online Fall Prevention course:

$$\text{ROI (blended learning)} = \frac{\$1,100,000 + \$112,000}{\$213,000} = \mathbf{+570\%}$$

At the minimum, every organization should implement at least an online training system to support its health and safety initiative. If we apply the above scenario, the ROI increases significantly:

$$\text{ROI (online learning only)} = \frac{\$1,100,000 + \$112,000}{\$30,000 \text{ (includes training time)}} = \mathbf{+4000\%}$$

In the above three worst-case scenarios, the online-learning-only program ROI was 7 times better than the blended learning program and 13 times greater than a classroom-only program. Despite these results, a strong blended training program can provide advantages not possible with an online-learning-only scenario:

- Face-to-face training promotes the traditional question/answer learning mode; many learners are most comfortable with this type of training.
- Face-to-face facilitates the interpersonal exchange of relevant experiences and the ability to discuss concepts in a group setting.
- Employees appreciate the financial outlay (travel expenses, etc) that the organization is willing to sacrifice to train them.

### **Online Learning's "Soft" Benefits**

While proponents of online learning technology boast of its numerous measurable attributes, it also provides benefits that are not so easily quantifiable. Though the acronym "ROI" normally refers to *financial* capital investment, a return from *human* capital investment can be equally beneficial to an organization and its members:

- Students can learn the material at their own pace. They needn't feel stifled by instructors that move too slowly or rushed by those that move too quickly.
- Students can learn in a comfortable, quiet setting. Many online learning students take their training on their home computers where they know they won't be disturbed.
- Learning can be interactive. Most modern online training courses provide for varying degrees of interactivity that can strengthen the learning experience.
- Learners can view their test scores immediately, and in many cases print certificates of completion.
- Students can potentially have access to a wide range of online training course topics. A large number of courses have been added to the e-learning market over the past few years.
- Many online learning systems provide live chat, message board systems, and other collaboration tools to enhance the learning experience.

### **Summary**

Attempting to assign an ROI to training is akin to "nailing Jello to the wall." Though a cause-and-effect relationship can be anecdotally described, rendering exact numbers in any scientific fashion is difficult, if not impossible. What we do know is that organizations that offer safety training enjoy fewer accidents than those that don't. It is also evident that a blended learning approach provides for a significantly greater ROI than a purely instructor-led program. Still, the biggest "bang for the buck" can be had by firms that currently have no formal training programs; for them, a relatively small investment in online learning can result in big time ROI results.