

Running head: E-LEARNING VS. INSTRUCTOR-LED TRAINING

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When organizations consider training options for their employees, they have to consider offering an e-learning training format or an instructor-led training format. One major factor in determining which format to use is cost. Cost factors include course development, instructor time, instructor salaries, preparation time, classroom/conference room costs, travel expenses, material costs, and employees' time.

Other factors that are sometimes not included are the instructional efficiency and the speed of delivery training. Instructional efficiency is where all of the information delivered leads to learning that improves performance (Moran, 2002). Speed refers to how quickly a program can be delivered across an organization, timeliness, consistency, and ease of updating material (Walliker, 2005).

An advantage e-learning has over instructor-led training is it can be developed and delivered at a much quicker rate and can be used at the same time by a large population spread throughout the world. It can also be accessed by the learner when it's convenient for them and they can navigate through the course to view content that pertains to their need. Instructor-led training may include information that is not relevant to the learner. With e-learning courses, a learner can filter through the course and only participate in the section that is relevant to their current position. This saves the learner and the company time and cost. According to Walliker (2005), "Online learners enjoy an efficiency advantage in being able to cover the same material in approximately half the time of a traditional class" (p. 2).

Often times a learner will attend an instructor-led training class to learn a new skill or procedure. However, the learner is not required to take this new information and put it to use for a few months. Since the learner does not have the opportunity to immediately build on and use the skills they just learned, they forget what has to be done when the time finally comes to use it. If this course was available online, the learner

would take the course at the time it is needed. There would be no time lost or retraining required. As stated by Moran (2002), “The increase in speed actually increases the value of the course content simply because of its improved availability to the learner. Speed, in this case, has a clear value. A properly designed Web course should have more value than its classroom counterpart” (p. 3).

Research conducted by Nucleus Research (2003) found:

Most companies gain significant returns from even modest investments in e-learning technology. Most e-learning customers have quickly recognized first tier benefits, including reduced costs for travel, customer support, human resources overhead, and regulatory compliance-and eventually second-tier benefits, such as increased employee performance that directly impact profitability. (p. 2)

According to Caterpillar University (Walliker, 2005), e-learning is less expensive to deliver almost regardless of learner population. For example, in all cases where there is a learner population larger than 100, e-learning has a clear cost advantage. As the population increases, this difference becomes more pronounced. Even with a population as small as 100 and a class as short as one-hour, e-learning was still more than 40 percent less expensive than instructor-led training. When large populations are modeled (40,000+), the cost advantage of online learning is even greater, with savings as high as 78 percent.

Caterpillar University calculates costs of delivering training on the following criteria.

- Development costs per hour of instruction: Caterpillar uses a 3:1 ratio between instructor-led training and e-learning development time (Walliker, 2005). The cost of developing training will vary depending on the intricacy of the instructional materials. Costs can also be affected if it was developed internally or externally.

If course material is designed internally it can be developed quicker than by an external contractor.

- Instructor cost per hour of instruction: Caterpillar uses a formula of \$150/hour instructor burden (Walliker, 2005). Obviously, an instructor is needed to conduct instructor-led training; therefore the cost of the instructor is incurred. However, e-learning does not require an instructor so no cost is incurred.
- Prep time and post-class activity: Prep times include setting-up the room and getting materials ready for the class. Post class activities include clean-up of the room and reviewing participant evaluations. An e-learning course does not require prep time or post-class activity, which is another cost savings.
- Material cost: At Caterpillar, material costs approximately \$20 per student, per class. This includes development, duplicating, printing, collating, binding, and storage (Walliker, 2005). E-learning does not require a materials cost which is a cost savings and a time saver for the instructor.
- Instructor travel costs: Often times, instructors must travel to various sites worldwide to conduct their training sessions. Travel costs add up quickly when you include airfare, hotel, rental car, and food. Travel costs are not required for e-learning courses.
- Learner opportunity costs: This is the cost to an organization when learners are away from their job. According to a 2002 *Learning Circuits* article by John Moran, this cost doubles if learners' position must be covered during class. In general, e-learners will cover the same course material in half the time (Hall 200 and Moran 2002). This means that, on average, an e-learner can cover one hour of classroom material in ½ hour online. Because e-learning usually occurs at the employee's desk, there is little or no interference time before and after class (Walliker, 2005).

- **Physical classroom:** Instructor-led training requires the use of a classroom. Depending on the location of the training this could add to the cost of the training. E-learning does not require a classroom.
- **Efficiency:** Moran defines training efficiency as “gained knowledge or skills” divided by “all information delivered.” If only 15-minutes of a one-hour class is relevant, the class was 25 percent efficient because the learner had to sit through 45-minutes of unnecessary material. If an e-learner is able to skip 45-minutes of material, or pass a pre-assessment test, allowing them to focus exclusively on the 15-minutes of new material, the efficiency of the online class would equal 100 percent. It is this efficiency that gives e-learning the 2:1 time advantage it enjoys over instructor-led training, according to Brandon Hall. In general, a learner will need half the time to cover the same material in an online class as they would in an instructor-led class (Walliker, 2005).
- **Velocity:** The speed in which training can be developed and delivered. Instructor-led training requires more time to implement than e-learning because training must occur at a specific location or locations. This requires travel time. Also, the number of participants is limited to room size or the appropriate amount of students for a given training session. With e-learning, courses can take place with numerous participants worldwide at their own work station.
- **Timeliness:** Instructor-led training must have a schedule which coordinates the time of the instructor, the learner, the facility on a specific date. E-learning does not require this coordination. It can be delivered when it’s convenient for the learner.
- **Consistency:** With instructor-led training different instructors may be teaching the same class but have different teaching styles. The message may not be

delivered consistently. On the other hand, e-learning consistently conveys the same message.

- Ease of updating: Updating material in an instructor-led class can be timely and costly because material must be adjusted and reprinted. Updates can easily be made to an e-learning course. The old material can be deleted, the new material can be added and the correction of any mistakes can easily be controlled and completed.

It can be concluded that the benefits e-learning outweigh the benefits of instructor-led training, in most cases. Offering training through an e-learning format provides many advantages to the learner. Of course, some courses may be better suited for a blended learning approach but overall, e-learning stands strong against the competition.

References

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