Training Evaluation: Audience Resonse System as an Evaluation Tool

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Abstract

Training program evaluation is essential in developing and sustaining effective training interventions. More specifically, measuring learning transfer is essential to any training program as it determines whether learning has occurred and if the learning objectives have been met. Kirkpatrick (2005), stated that training program evaluation is used "to decide if a program should be continued, to decide if a program should be modified, and to demonstrate the value of training – and thus justify our existence [as trainers/human performance technologists/consultants]" (p. 19). The purpose of this study was to describe challenges in evaluating training and how technology can aid in this process.

Keywords: Audio response system, program evaluation, training

Introduction

Training, opportunities for employees working within U.S. organizations have increased over the years due to an increase in global competition and the pressure to develop a strong competing workforce (Pulichino, 2007). According to O'Driscoll, Sugrue, and Vona (2005), "learning is becoming an increasingly important function for all companies to develop and maintain the individual and organizational skills needed to create a competitive advantage, increase efficiencies, and improve the bottom-line results" (p. 70). Because of the increased value in the training and development of employees, it becomes more important for organizations to ensure that their time and monetary resources are actually producing an outcome.

This outcome can be determined through the use of evaluation methods before, during, and after the organization's training programs (Shrock & Geis, 1999).

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According to Kirkpatrick (1994), training programs should be evaluated to determine their effectiveness so that future programs can be improved, to decide if the program should be repeated, and to justify the value of the training department to top management.

Purpose of the Study

The purpose of this study was to describe challenges in evaluating training and how technology can aid in this process. This research was intended to give students, educators, and practitioners a practical approach to evaluating whether trainees have mastered the intended learning objectives using technology. It is the hope of the researcher that a better understanding of how to incorporate technology into evaluation will help trainers determine and improve a program's effectives.

Method

Research for this paper was accomplished through investigation of sources in published academic papers, books, Internet links, and periodicals. Specific sources were Booth Library at Eastern Illinois University and ERIC document on-line reproduction service.

Discussion

EvaluationDefined

Evaluation plays a vital role in employee training as it is essential in collecting necessary information to ascertain learning, behavior change, and organizational impact. In fact, evaluation can provide information about worth, value, and meaning behind training programs within organizations if it is conducted properly (Shrock & Geis, 1999). With this in mind, it is imperative that evaluation is enhanced by broad participation, planning, creating ownership amongst key players, and a significant focus on ensuring learning has occurred. Evaluation is defined as "judging the worth or merit of something or the product of the process" (Scriven, 1991, p. 139).

The purpose of evaluation is "to decide if a program should be continued, to decide if a program should be modified, and to demonstrate the value of training – and thus justify our existence [as trainers/human performance technologists/consultants]" (Kirkpatrick, 2005, p. 19).

Evaluation seeks to determine if organizations met their objectives through training. Did trainers actually train? Are learners knowledgeable about the specific information delivered during training? Are the results of training equal to its initial objectives and intentions? Has the training process proved to benefit the organization? No evaluation approach seeks to answer these questions more than Kirkpatrick's 4 level evaluation approach.

Kirkpatrick's 4 Level Evaluation Approach

In 1959, Donald Kirkpatrick developed a four-level framework for training evaluation (Stroel, 2004). The four levels were published in a series of articles for the American Society of Training and Development (Kirkpatrick, 1959a; Kirkpatrick, 1959b; Kirkpatrick, 1960a; and Kirkpatrick, 1960b). To date, this evaluation framework has been the primary, most trusted, and most utilized evaluation approach. This framework consists of four levels: 1) reaction, 2) learning, 3), job behavior, and 4) organizational results. Level one captures trainee's reaction to the training program. At this level, the learners rate the trainer, course materials, and training environment. Kirkpatrick suggests that level one evaluation should be very simple in nature and to the point (Stoel, 2004). Overall, level one evaluations focus simply on what the trainees enjoyed about the training but does not get into whether or not they actually learned or will apply the training in the future.

Level two determines if trainees learned the knowledge or skill and if their attitudes have been changed by the training (Kirkpatrick, 1977). This step in the evaluation process is important for trainers to know whether participants met the course objectives. Kirkpatrick (1994) set up a set of guidelines for this level as well, and they include measuring before and after attitudes, knowledge and skills, using written tests for knowledge and attitudes and a performance test for skills. Level three measures behaviors after training to determine if learners have the ability to apply what they learned in the training to their actual workplace. The fourth and final level of evaluation is measuring organizational results. This level is related to the value of the training, by means of organizational benefits.

Many organizations have the objectives of wanting to accomplish higher profits, lower costs, better quality, morale, and customer relations, and lower turnover.

Jack Phillips (1997) introduced a fifth level to Kirkpatrick's evaluation framework focusing measurement on tangible value to the training investment. According to James and Roffe (2000), Phillips' fifth level translates the worth of training into monetary value commonly referred to as return on investment (ROI). The newly added fifth level has several apparent advantages: 1) gain a better understanding of factors influencing training effectiveness, and 2) determine the monetary value of specific training initiatives.

Challenges with Level 2

Level two evaluation is essential to any training program to determine whether learning has occurred and if the learning objectives have been met (Shrock & Geis, 1999). Kirkpatrick notes that "it is important to measure learning because no change in behavior can be expected unless one or more of the learning objectives have been accomplished" (Kirkpatrick, 1994, p. 42). However, most organizations do not go any further than conducting training at level one (Pulichino, 2007). Kirkpatrick believes this stems from some practitioners not considering evaluation to be important or simply because they do not understand how to measure learning (Kirkpatrick, 1994). Moreover, in some organizations there is not any pressure from upper management to conduct level two evaluations or in some cases practitioners feel secure in their job so they do not feel that they need to seek out this information (Kirkpatrick, 1994). Kirkpatrick (1994) also notes that practitioners may also have too much on their plate to take on the additional responsibility to determine if learning has occurred.

An additional issue concerning level two evaluations is that some trainers do not have the ability to write valid questions, observe accurately, or determine the quality of instruments they are using which is essential to successfully conduct this level of evaluation (Shrock & Geis, 1999). This is important because at level two "all of the factors that could have caused changes in post-test versus pre-test scores" must be eliminated in order to determine if learning has actually occurred (Kirkpatrick, 1977, p. 10).

Kirkpatrick notes that controlling variables can be a very complicated process and that it "is obvious that very few training directors have the background, skill, and time to engage in extensive evaluations" (Kirkpatrick, 1976, p. 20).

Along the same lines, the trainer must also be able to determine which parts of the course were understood based on the pre and post-test results which can be difficult (Kirkpatrick, 2004). Since most practitioners do not feel they have the knowledge to conduct this type of evaluation accurately they choose to ignore it. Further, another considerable problem in conducting level two evaluations is that some practitioners assume that if the reaction to the level one evaluation is positive then learning has in fact occurred which is not always the case (Pulichino, 2007).

The last significant challenge that is important to address in relation to level two evaluations is that even when they are conducted, organizations often ignore results. Some practitioners believe that simply collecting the data is enough but the reality is that the evaluation of level two is only useful when the problems in the training are then solved (Schrock & Geis, 1999).

A Possible Solution to the Level Two Dilemma

Considering the many difficulties associated with the completion of evaluation at level two, it would be ideal to incorporate an evaluation process that would allow the trainer to identify whether the audience was learning throughout the training. If this were possible, the trainer would be able to recognize areas that he needs to spend more time explaining versus areas that the trainees already had acquired sufficient knowledge. Turning Technologies, LLC believes that they have developed an Audience Response System (ARS) that accomplishes just that; a realistic portrayal of level two data throughout the training program. According to Miller, Ashar, and Getz (2003), "an Audience Response System (ARS) in an electronic tool that provides instructors and learners with immediate and anonymous feedback regarding the accuracy of their responses to multiple-choice questions" (p. 111). Skiba (2006) described in full detail how teachers would use an ARS for classroom instruction:

Learners are given clickers as they enter the class, or they may purchase their own clickers that they bring to class. Using response software, the faculty member projects questions on the video screen and asks students to select an answer.

All students use their clickers to select their responses, which are transmitted automatically.

Answers are tabulated by selection and can be immediately projected to the class. Some response systems work in collaboration with PowerPoint, textbooks, or course learning management systems such as Web CT or Blackboard. (p. 279)

While the language of the above explanation clearly is written in a language for academic settings, the concept for how ARSs work would apply to a business setting just as easily.

Types of ARSs

Different brands of audience response systems have been developed. Once an organization chooses a particular brand, then it is understood that particular brand will be used for all training sessions. This will help reduce technical confusion, as there are several electronic parts that must all go together. In this research, there were five different brands of ARS found: Turning Point, Pearson's Classroom Response, eInstruction, iRespond, and i>clicker. All of these brands boast similar technologies. Their difference come from the various hand-held devices used, customer support, and sometimes audience.

For the most part, the electronics necessary for ARSs are the same. Customers will need software, computer hardware, leaner transmitters, and a receiver for the transmitters (Pearson, n.d.). The specific transmitter will change in style from different brands of ARSs. Some transmitters are similar in size to a credit card. Some take the shape of a television remote control. Some transmitters will only allow trainees to press a number or letter in response to the presentation. Some have small digital screens to provide trainees with more information. Pearson's Classroom Response, Turning Point, eInstruction, and iRespond each have different types of transmitters available.

When introducing a new technology to an organization, customer support is a necessary resources to minimize confusion in the transition of incorporating the new tool. Since this is a technological device, there are complete technical resources online for these brands. Some are not as advance.

The Pearson website allows viewers a glimpse of information, but it refers customers and potential buyers to a phone number, address, and electronic mail address for further assistance.

The iRespond system has an easy to navigate website with informative details for potential buyers, but customers must be registered trough the website and product bought to gain further information. Most useful were the Turning Point, i>clicker, and eInstruction websites. Here, customers gain as much information as potential customers. Each of these sights allowed buyers to download a copy of the manual, as well. Turning Point even allowed customers to download free trial versions of the software, and it catered to different computers and operating systems.

Most of these systems were designed with classroom lecture solely in mind. The language used on their website and manuals states that the trainees are students. Many also inform customers of the features to incorporate the academic learning management systems like WebCT and Blackboard. However, Turning Point and iRespond stayed neutral to audiences as if offered information on how the product can be used outside of an academic classroom. However, it makes sense that Pearson's ARSs caters to the academic setting because it does come from a company that produces textbooks.

While the brands differ, the purpose of each is the same. It is up to the customer to decide what audience response system will work best for their organization.

TurningPoint

TurningPoint integrates into Microsoft PowerPoint which is a program that most practitioners already utilize (Hall, 2006). TurningPoint engages audiences by enabling them to participate in a training program by "submitting responses to interactive questions using a ResponseCard keypad or other hand-held/computer devices" (Turning Technologies, 2008). TurningPoint then organizes and displays the results of the questions which provides the presenter with instant feedback based on the audience's understanding of the topic (Hall, 2006). In other words, TurningPoint creates a real-time assessment system that enables trainers to collect level two data with ease (Turning Technologies, 2008).

This new technology allows trainers to evaluate the learning process without an obvious pre and post-test which can make some trainees anxious.

Now, trainers will be able to start their program with an icebreaker that is similar to a pre-test in order to determine the knowledge level of the audience and then will be able to complete the post-test throughout the training. This also helps the trainer determine exactly which points throughout the training need to be improved based on this level two evaluation. TurningPoint also allows trainers to not only track the "collective understanding of the entire class", but it also can track individual learning at any point during the instruction (Professional Media Group, 2007). This can be completed by inserting a fixed table in to the PowerPoint slides that shows which participants have and have not responded to the question. This ensures that every learner is answering the questions and can be held accountable for their individual as well as the group work (Long, 2008). This can also serve as a resource to the trainer by allowing the trainer to privately identify which learners may need some additional assistance learning the material or may benefit from other materials such as job aids. In addition, TurningPoint can be used during a review session as well which would help satisfy the review portions of the training (Long, 2008). Overall, TurningPoint is also beneficial to the trainer because it can generate any type of report whether the trainer needs it in Word, Excel, pie charts, or graphs (Long, 2008).

While most companies seem to be using TurningPoint because it is helpful in engaging adult learners or because it can make dull topics more fun, other companies have started to use TurningPoint to capture level two data. For instance, Sherwin-Williams used TurningPoint "to go beyond the 'had a nice time' evaluations it usually received from attendees after training events" (Nielsen Business Media, 2008). They decided to use this new technology to determine if their "Seven-Step Sales Process" training was effectively meeting the learning objectives. In order to accomplish this, Sherwin-Williams developed a quiz-based training session using the ResponseCards. The questions were based on the knowledge that the sales representatives should already have and the understanding of the seven steps which would be gained through the training program (Nielsen Business Media, 2008). In addition, the American Research Institute states that they use TurningPoint to establish their focus during training, as well as to determine the pace and depth of their content which is a common concern associated with designing a training program.

The American Research Institute make sure their trainers are prepared to talk about everything but the technology helps the trainers by allowing them to speed up on topics that are not critical, and spend time on those that are necessary based on the audiences reactions (Turning Technologies, 2008).

On the same page, CME Outfitters have also cited a similar benefit and noted that "being able to establish a baseline by polling attendees before and then polling them again afterwards helped to ensure that any possible knowledge gaps were filled" (Turning Technologies, 2008).

Some other companies that have realized the benefits of utilizing TurningPoint to capture level two data are First Wellesley Consulting Group, Southern Colorado Family Medicine, and Colorado Springs Osteopathic Foundation. According to Jim Jones, the President of First Wellesley Consulting Group, the main purpose of their organization is to collect and analyze data to create value in their training programs so using TurningPoint has been incredibly effective in increasing the efficiency of that process (Turning Technologies, 2008). In addition, Jones relays the importance of being able to gather data in a non-threatening manner which is also accomplished through this new technology and is important to the accuracy of level two data. Along the same lines, one of the senior doctors at Southern Colorado Family Medicine also communicates a similar message that his trainers and trainees appreciate the anonymity when answering but also still obtain the immediate feedback which is necessary to continually improve the training program (Turning Technologies, 2008). Similarly, the Medical Director at the Colorado Springs Osteopathic Foundation feels that the most important outcome of using TurningPoint is the ability to "adjust his lectures based on the understanding of the participants" (Turning Technologies, 2008). Overall, it seems that TurningPoint may be a potentially valid solution the problems associated with the collection of level two data within Kirkpatrick's four levels of evaluation.

Conclusion

In conclusion, evaluation is one of the most essential components of any training program. Over the years, evaluation processes have undergone refinements in order to determine the best ways to conduct evaluations and analyze the effects brought about by the training and how this effects the organization. Kirkpatrick's four level evaluation approach is one of the most widely used evaluation tools but it must be implemented properly in order to be effective.

Level two is especially important to companies who are concerned with ensuring their learning objectives are accomplished which in turn would guarantee a more knowledgeable employee base.

TurningPoint has been cited as a practical and innovative way to collect level two data and to assess whether learning has occurred throughout a training program. Overall, the use of TurningPoint in conjunction with Kirkpatrick's level two will allow a trainer to quickly gather data and evaluate the learning process in a non-threatening, anonymous environment for the learner (Turning Technologies, 2008). This will ultimately guide the trainer to adjust the program or presentation in order to enhance learning and develop a stronger training program over time.

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