Training: Theory, Program Design, and Evaluation[12]

According to the 2015 State of the Industry Report, organizations spent an average of $1,229 dollars per employee on training and development (T&D) in 2014, demonstrating continued commitment to employee development. T&D is a systematic approach to teach employees knowledge, skills, and attitudes concerning organization-specific (e.g., customer service) or general (e.g., leadership development) content. The goal of training is to efficiently improve individual, work group, and organizational effectiveness. Based on instructional design theory and research, the training system has three phases: needs assessment, training development, and evaluation (Goldstein & Ford, 2002). Careful attention to each phase results in effective, research based training that saves companies money and promotes skill transfer to the job.

The first phase is training needs assessment (TNA) – an analysis of the organization, tasks, and person – that results in instructional objectives for a training program and informs the evaluation process. First, an organizational analysis is used to specify the goals of the organization, determine how supportive the organization is for training, and identify any potential barriers to training (Goldstein & Ford, 2002). Next, the task analysis and a person analysis are carried out either sequentially or simultaneously. Task analysis determines the job specific content important for training, whereas a person analysis determines which employees need training. Surface (2012) notes that the TNA should be customized to meet organizational needs and may reveal that training is not always the correct solution. TNA is useful to organizations even when job demands may be unknown or dynamic. For example, Dachner, Saxton, Noe, and Keeton (2013) used a modified TNA to identify training needs for crews who will be deployed on future long duration space flights. After the TNA is complete, the training professional uses the results to write appropriate learning objectives for the training program.

The second phase is training design, and a variety of training methods and media are available. Research has demonstrated that employees are most likely to use what they learn in training on-the-job when practice sessions are spaced out rather than massing practice all at once (Donovan & Radosevich, 1999), the tasks trainees practice are varied (Holladay & Quiñones, 2003), and feedback is provided (Goodman & Wood, 2004; Goodman, Wood, & Chen, 2011).With respect to the available media, both web-based training (Sitzmann, Kraiger, Stewart, & Wisher, 2006) and game-based training (Sitzmann, 2011) can be as effective as classroom instruction. For example, Sitzmann et al. (2006) found that when web-based and classroom instruction used the same methods (e.g., lecture, video, practice, etc.), they were equally effective.

The final phase is training evaluation. One of the most widely used models for training evaluation is Kirkpatrick's (1976) four levels: reactions, learning, behavior, and results. Reactions reflect how satisfied trainees were with their experiences during training (Sitzmann, Brown, Casper, Ely, & Zimmerman, 2008) and include perceptions of both enjoyment and usefulness (Brown, 2005). Learning outcomes include cognitive (e.g., knowledge of facts and principles), skill-based (e.g., error free performance of a task), and affective outcomes (e.g., motivation and confidence; Kraiger, Ford, & Salas, 1993). Behavior or transfer of training is defined as the use of trained skills back on the job (Baldwin & Ford, 1988), and results refers to whether the training has an impact on the organization's bottom line (e.g., return on investment, improved safety outcomes). Although Kirkpatrick's four levels are weakly correlated (Alliger, Tannenbaum, Bennett, Traver, & Shotland, 1997), each provides unique information

useful to the training professional. The key to quality training evaluation is to choose the metric most meaningful to the training program and the organization (Kriager, 2002).

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