Handbook of Research on Virtual Workplaces and the New Nature of Business Practices

Pavel Zemliansky
James Madison University, USA

Kirk St.Amant
East Carolina University, USA

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Chapter XIX
Building Online Training Programs for Virtual Workplaces

Christa Ehmann Powers
Smarthinking Inc., USA

Beth L. Hewett
Independent Scholar, USA

ABSTRACT

Companies that conduct their business either in an entirely online setting or in hybrid environments (i.e., online and face-to-face) are in a unique position in today's global economy. They are poised to take advantage of the Internet's flexibility both for assisting their clients and for hiring the best workers available regardless of geographical location. They also are in a unique position when it comes to training and preparing their workers to assist those clients. However, many such companies do not have principle-centered training materials that they can adapt to meet their own institutional needs. This chapter provides employers with such training principles, ones that have been substantiated by practice and research from various professional fields and that have been successfully used in an Internet-based business that employs hundreds of part- and full-time individuals. Specifically, this chapter provides readers with: (1) an educational and financial rationale for conducting online human adaptive training for virtual workplaces; (2) an understanding of training/professional development principles and strategies for online employees in virtual businesses via one-to-one and/or group human adaptive settings, and (3) an understanding of how to scale such training processes efficiently and with measurable results gleaned from qualitative and quantitative methods.

INTRODUCTION

Companies that either conduct their business in an entirely online setting or in hybrid environments (i.e., online and face-to-face) are in a unique position in today's global economy. They are poised to take advantage of the Internet's flexibility both for assisting their clients and for hiring the best workers available regardless of geographical location. They also are in a unique position when it comes to training and preparing their workers to assist those clients. However, many

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such companies do not have principle-centered training materials that they can adapt to meet their own institutional needs.

The purpose of this chapter is to provide employers with such training principles, ones that have been substantiated by practice and research from various professional fields and that have been successfully used in an Internet-based business that employs hundreds of part- and full-time individuals. Specifically, this chapter provides readers with: (1) an educational and financial rationale for conducting online human adaptive training for virtual workplaces; (2) an understanding of training/professional development principles and strategies for online employees in virtual businesses via one-to-one and/or group human adaptive settings, and (3) an understanding of how to scale such training processes efficiently and with measurable results gleaned from qualitative and quantitative methods.

Although little is written about training employees virtually for virtual work settings, much is written about "e-training" for professional development purposes when "blended" employee teams work remotely *and* face-to-face. Schank (2002), for example, proposes solutions for such business training initiatives and education settings. However, his solutions primarily entail the incorporation of artificial intelligence (AI) into training situations: trainees complete scenarios of various, but generally have low, human interactivity levels (e.g, Aldrich, 2004; Schank, 2005). From practical, financial, and principled perspectives, AI can be appropriate for certain workplace and training circumstances. However, there are numerous situations for which *humans* need to conduct some or all online training interactively with employees who already do or who will work online. Particularly for businesses that involve high-touch, in-depth, consultative client relationships, training methodologies often need to account for human interactions that cannot necessarily be achieved by AI simulations.

Beyond AI, some have addressed human e-learning and training in online educational contexts through adult learning principles (e.g., Salmon, 2002; Hewett & Ehmann, 2004; Cargile Cook & Grant-Davie, 2005; Graves & Twigg, 2006; Hewett & Ehmann Powers, 2007). More work is needed, however, that addresses how such principles and others can be applied to training situations that yield effective, efficient, and scaleable results for virtual workplaces. In their book devoted solely to online training, *Advanced Web-Based Training Strategies: Unlocking Instructionally Sound Online Learning*, Driscol and Carliner (2005) also emphasized the need for continued scholarship in this area.

This chapter, therefore, addresses three primary issues. First, it provides readers with an educational and financial rationale for conducting online human-adaptive training for virtual workplaces. Second, it considers training/professional development principles and strategies for online employees in virtual businesses via one-to-one and/or group human-adaptive settings. Finally, within this framework, it discusses how to scale such training processes efficiently and with measurable results gleaned from qualitative and quantitative methods. For the purposes of this chapter, we focus on online training with specific regard to workplaces that require employees to conduct *all* work with co-workers, colleagues, and supervisors online and at a distance. However, the principle-based e-training that we outline certainly can be valuable for those who interact with employees and clients in blended settings.

This chapter draws on our experiences with Smarthinking, Inc.[1], a business built on the premise of aggregating geographically diverse employees for a 24-7 academic support service. Highlighting design and implementation principles, the chapter focuses on four areas:

- **A Background for Online Training.** The chapter begins with a review of the relevant literature and puts online training in context

of other research and scholarship regarding the professional development of virtual teams.

- **Leveraging the Internet for Human Adaptive Training.** Despite being virtual, many workplaces conduct training and professional development in face-to-face venues or online through AI rather than online with other humans. This section provides an overview of educational and financial factors, including effective uses of both trainer and trainee time, that support a decision to conduct online training with human trainers. Unique learning opportunities for trainees and resulting workplace performance and economic benefits are discussed.
- **Design Principles for Online Training.** Having presented conditions under which online training is appropriate, this section examines a five-principle training framework (Hewett & Ehmann, 2004). We will discuss the principles of investigation, immersion, individualization, association, and reflection in relation to their applicability in virtual workplace settings.
- **Future Trends and Implementation Strategies for Online Training.** This section considers future trends in the field of online training relative to the aforementioned principles. Within the context of an ever-changing technology landscape, such trends include conducting training with a disparate group of individuals; conducting training efficiently; producing quality, measurable results; and designing training programs that can be scaled as workplaces grow.

A concluding section then explores areas for development in online training and suggests future research opportunities. Readers will learn both online training principles and procedures for virtual workplaces, as well as steps for addressing such developments.

BACKGROUND

According to Gignac (2005) and Illegems and Verbecke (2003), virtual workplaces in which employees work online from remote locations are increasingly common. Blended work environments that involve some face-to-face as well as online-only employees, or a combination of both, also exist. Merely analyzing the growth of universities that offer predominantly online courses such as the University of Phoenix or University of Maryland University College (UMUC) suggests that in online work environments (both academic and non-academic) more and more employees have opportunities to conduct their work online (e.g., Ruch, 2003; Berg, 2005). The 2005/2006 National Readiness Survey released in July 2006 indicated that 11% of all employees in the United States do some type of work remotely with the potential for 25% of all workers to engage in some form of regular telecommuting (p. 2). By definition, the number of virtual employees who are now required to conduct all of their work online—with co-workers, supervisors, and clients—also has increased. Recent scholarship speaks to the increase in virtual work spaces (Illegems & Verbeke, 2003; Ghaoui, 2004; Gignac, 2005).

The growth and nature of virtual workplaces require that organizations reassess and question their approaches and infrastructures for beginning employee orientation and training, professional development, and management. Organization and development professionals must ask: How do employees transition from traditional face-to-face work environments to online ones? How do supervisors manage employees remotely? How do employees learn to collaborate with one another remotely? How do employees serve clients in an online setting as effectively as in a face-to-face setting?

Indeed, these questions typically revolve around issues of *online training*—for new employee orientation purposes and/or ongoing professional development for employees. Within the context of employee work in virtual business

environments, Horton's (2000) defined online training as "any purposeful, considered application of Web technologies to the task of educating a fellow human being" (p. 2). Like Horton, we categorize online training as a form of online learning. Drawing on thinkers like de Leeuwe (2006) and Stockley (2006), such education also is called "e-learning," which we define "as the formal and informal delivery of learning and professional development activities (including training), processes, and associations via any electronic methods including but not limited to the Internet, CD-ROM, videotape, and DVD" (Hewett & Ehmann, 2004, p. xv). Therefore, we can reasonably draw on theories of online teaching and learning in online training situations.

The literature about online training can be grouped into one of three distinctive categories: (1) education-based work that focuses heavily on the "pedagogy" of online training and the learning theory behind it (e.g., Carliner, 2004; Ghaoui, 2004; Bourne & Moore, 2005); (2) scholarship that focuses primarily on the operational and technical mechanisms associated with training (e.g., Horton, 2000; Horton & Horton, 2003; Aldrich, 2004); and (3) those few works that bring together both aspects of pedagogical and operational implications (e.g., Driscoll & Carliner, 2005).

Another characteristic of the literature is that there exists a significant gap regarding online training specifically designed for virtual workplaces. Few pieces, outside of our own, overtly address online training for employees who will exclusively work in virtual business environments, whereas much of the literature discusses online training for employees who eventually will work in face-to-face situations. Interestingly, those texts that do focus on virtual team development (e.g., Gignac, 2005) tend to conceptualize the training implementation as a face-to-face endeavor. Further, the majority of literature relies less on empirical findings regarding training and more on what authors recommend *should* occur in such situations and the philosophical approach that *should* be taken to achieve those presumed goals (e.g., Horton, 2000; Horton & Horton, 2003).

Within online learning and its subset of online training, this chapter focuses on two primary communication modalities: asynchronous and synchronous. The use of these modalities in online training is what Driscol and Carliner (2005) labelled as "blended learning" (p. 12). The training discussed here also involves asynchronous and synchronous human adaptive training experiences that engage human trainers and trainees, rather than, for example, static contents, self-paced AI modules, or automated multiple-choice tests.

Regardless of the modality and level of human adaptive interactivity, however, many argue that online training cannot yield the kinds of learning that occurs in face-to-face settings. These concerns are well taken; however, we believe that preparing to work in virtual settings requires *online* training. In his on-going meta-analysis of student outcomes and "alternate modes of education delivery," Russell (2001; ongoing) found that the incorporation of Internet-based modalities has no effect on student learning outcomes. In other words, students learn equally "well" online compared to traditional, brick-and-mortar venues. Also acknowledging that student/trainee learning can occur in online contexts, Horton (2000) argued that online training can address "just-in-time training" needs of organizations that have underprepared employees who must learn technology skills and programming. Indeed, online training can be used to help employees develop particular skills in a timely fashion.

We disagree, however, with those like Carliner (2004) who suggested that online learning and training *best* suit the teaching of "rote skills" and "prerequisite material" whereas the traditional training classroom "provides an opportunity to develop higher-order thinking skills and simulate interpersonal exchanges" (p. 36). Rather, we have experienced and researched that online training and, in turn, the work accomplished in virtual workplaces can involve highly complex thinking, tasks, and processes and that it can "work" both for those who may need additional time with certain

procedures as well as those who progress rapidly through a training program. Further, unlike Horton (2000) who believed that the incorporation of online technologies into training "does not change how humans learn, but it does change how we can teach them" (p. 6), evidence suggests that there are distinctive outcomes and learning objectives for online work that can only be produced by engaging in *online* training (Ehmann Powers, in progress-a; in progress-b).

Finally, although the aforementioned work speaks to various online training issues, missing from the literature is a comprehensive set of operational and educational principles for training that rises above any one particular venue, situation, business, or technology platform. Also missing is the strategic justification for engaging in online training, particularly with virtual employees. The rest of this chapter, therefore, suggests an online training rationale and principles for the design and implementation of training programs.

MAIN FOCUS OF THE CHAPTER

Leveraging the Internet for Human Adaptive Training

This section provides a justification for training employees online for virtual workplaces. Online training is integral to workplaces that require employees to work with each other and/or clients online rather than in face-to-face settings. Additionally, online training within a business context is driven and necessitated by: (1) a commitment to providing employees with quality learning experiences through which they demonstrate understanding of relevant work material; and (2) a commitment to meeting operational parameters, benchmarks, and efficiencies

To support this justification, we use our early experience developing an online training program for Smarthinking, Inc., an online learning center that was founded on the belief that the Internet could be used to leverage highly skilled and trained educators to deliver online educational services 24 hours a day, 7 days a week. The company's originators theorized that by aggregating a virtual workforce of educators, the delivery of services across a multitude of educational institutions would be more efficient and of equal or greater quality than organically grown services from any one single institution or program (e.g., Smith, 1999; Maeroff, 2003; Chediak, 2005; Jaschik, 2005; Paley, 2006). By definition, online educators would be staffed around the world to provide the service and could work from any location with computer and Internet access. Although particular management positions were conceived as face-to-face, well over 95% of the workforce would be working with each other and clients remotely. Further, at the company's inception, none of the employees were expected to have online work experience. Within this context, the rationale for online training was clear: online training would be needed for both quality purposes as well as operational efficiencies.

In our early experience with Smarthinking, we saw that for employees the transition from face-to-face to online contexts was complex. Acclimating to a text-based mode of asynchronous and synchronous communication and establishing virtual rapport was not a straightforward process. Employees could not directly transfer their understandings, strategies, and skills about their work from face-to-face to online employment environments. Doing so would necessarily affect their work product and their relationships with co-workers and clients. It did not make sense educationally, therefore, to have trainees undergo exercises in one physical location. Rather, the training that we developed reflected very closely the online duties that employees would perform when working with live, online clients. Some of these specific challenges and complexities have been documented in various publications (e.g., Ehmann, 2000; 2001; Ehmann, Heywood, & Higgison, 2000; Ehmann Powers, in progress-a; in progress-b; Hewett, 2004; 2006).

In addition to such substantive quality standards, we could not overlook operational efficiencies. For the purposes of this discussion, we use Hydro One Inc.'s (2004) definition of operational efficiency as: "reducing costs while providing the same service to customers" (p. 3). The extent to which training for a particular service was delivered efficiently and within operational parameters of Smarthinking's particular business model influenced the decision to conduct training online, or via some other non-face-to-face medium. In other words, it was our fiduciary responsibility to assess and reduce internal expenses as the institution continued to provide and improve the quality of products and services to customers.

In the Smarthinking scenario, it was neither feasible nor financially responsible to coordinate and schedule in-person training. Costs of travel and facilities would be prohibitively high. Additionally, we recruited individuals on an ongoing, rolling basis according to the demand for our service; the composition of our team was never static. As such, defining particular times for employees to engage in face-to-face training simply was not feasible. Further, as the business grew, we expected that employees would continue to work from across the globe and certain business processes would be changeable. Long term, therefore, we needed to implement a system that could accommodate a global workforce as well as the on-going advances of the business.

Interestingly, the academic/educational literature on online training at the time of Smarthinking's inception (and even today) rarely addresses the operational components of online training in this regard. When it does, it often decries the notion of "efficiency" within a learning context (e.g,. Cargile Cook, 2005; Rude, 2005), labeling any discussion of efficiency as antithetical to the learning process. Yet, within the virtual workplace (as well as traditional workplaces for that matter), we continue to contend that the realities of meeting deadlines and operational benchmarks cannot be ignored. Whether in an openly for-profit or non-profit context, efficiencies must be embraced and considered of equal importance. Indeed, as Hewett (2004) discovered, sometimes attention to efficiency in the workplace actually assists the client (in her case, the student using the learning assistance) by providing a more focused, do-able set of tasks. Within this framework, therefore, we advocate that online training for *both* quality and efficiency objectives is a key rationale for leveraging the Internet to engage in online training.

DESIGN PRINCIPLES FOR ONLINE TRAINING

Working from the premise that *online* employment necessitates *online* training and that technology platforms and innovations are ever changing, we argue that training should be conceptualized within a principle-centered framework (Hewett & Ehmann, 2004). Taking account of the inevitability of technological advances that many individuals like Kilby (2001) and Horton (2000) highlighted, we advocate an approach whereby trainers: (1) identify instructional principles for training that outlive specific technology platforms and (2) then identify training methods adaptable to particular platforms (Hewett & Ehmann, 2004). In other words, whether one uses asynchronous e-mail, synchronous messaging, or particular commercial software for an orientation classroom- or Internet-based networking platform, a training program can engage operational and educational principles that address online business processes comprehensively (also see Covey's (1992) notion of "true north"). The outcome yields a training program that is qualitatively strong, yet "contextually adaptive" in that it will remain structurally sound despite a company's technology changes or upgrades and/or program developments (Hewett & Ehmann, 2004).

Cognizant of action research, adult learning, business-based online "e-training," and experiences as cross-disciplinary educators, we bring together five commonly acknowledged educational principles to ground the development of

any online training program: (1) Investigation, (2) Immersion, (3) Individualization, (4) Association, and (5) Reflection. Within this principle-centered framework, we do not advocate any one particular teaching and learning theory for a particular training program. Rather, we believe that different teaching and learning approaches must be driven by the nature of work, project, learners, and task at hand—rather than ideology. In some cases, a strictly "behaviorist"/"positivist" learning approach might work best; in others, a "constructionist" approach might be most appropriate. Regardless of the ways in which trainers develop their individual training programs, however, particular universal principles that can be applied to their architecture.

Investigation is our first principle in the design of an online training program. Given the lack of empirical research about the effect of the online medium on various work processes, we suggest that employers approach training as a way to strategically and intentionally explore the efficacy of the training processes for the participants involved and, in turn, the company as a whole. We argue that one of the "fundamental aim[s]" of training is "to improve[ing] practice" (Elliot, 1991, p. 49) through systematic investigation, thus improving and refining future versions of the training program. Within training, then, two parallel processes occur. The first relates to the trainee's personal development and learning. The second relates to a broader understanding of how the online medium affects employee work products.

In this regard, we argue that the collection of trainee feedback is of utmost importance to an investigative principle. Such data collection can be undertaken in accordance with the overarching questions the investigator/employer would like to pursue: quantitative and qualitative questionnaires, meta-cognitive exercises, trainer/trainee synchronous online discussions, quantitative and qualitative feedback from individual trainers, and analysis of archived training sessions. Key to this data collection, however, are the following requirements: (1) that these mechanisms are actually an integral piece of the program and not "busy work" and (2) that trainers have the ability to archive and mine the data according to particular parameters such as by trainee, task, date, and response number. Resulting review of specific feedback informs the periodic revision of organizational training plans, processes, and procedures. Such revision can include training materials with novice trainees and macro-level changes regarding supervision, standards, guidance, technology, instructors, and training to targeted experienced trainers.

Our second principle for training design is *Immersion*. The importance of engaging *firsthand* with a new work circumstance cannot be exaggerated. Experience suggests that this principle is valid in virtual workplaces as well. Grounded in adult learning scholarship (e.g., Knowles, 1990; Apps, 1991; Galbraith, 1991; Galbraith & Zelenak, 1991), online training can be designed to address adult learner needs, who exhibit varying levels of self-directedness, experience in life and teaching, social readiness for work processes and projects, the ability to use relevant learning applications, and the ability to self-diagnose one's learning needs (Knowles, 1990). Practical implications include having all communication done through the online medium with which employees will ultimately interact—whether that be e-mail, synchronous chat, listserv discussions, or reference materials.

Further, all trainer/trainee meetings, schedule-related e-mails and performance reports, asynchronous scheduling and progress reports, and technology troubleshooting are scheduled and conducted via the Web. In exercises or simulations that replicate the work to be accomplished online, the trainer models the learning process and the training material by enacting the online roles of "teacher" (trainer), "student" (trainee), and "client" (recipient of the employee's interaction or work product). Trainees become "students" and enact the role of novice employee to practice skills both privately and online for the trainer, who then assesses the simulated results with

respect to the organization's expectations and client needs. Finally, depending on the nature of the work, trainees can conduct additional reading such as theory and other important outside texts. Providing a theoretical framework in which participants operate can enhance understanding, assimilation, and furthering questioning in the virtual workplace.

Our third principle—*Individualization*—suggests that training be tailored to meet the needs of individual participants. Every online employer must reconcile the operational requirement for standardization with trainees' needs for flexibility or individuality as they progress through training. Apps (1991) observed: "Some people learn best by looking at the whole picture first and then examining the pieces. Others want to start with the pieces, add them together, and create a whole" (p. 34). Ultimately, the goal for training programs is to be systematic and efficient, yet fluid enough to account for the trainee's unique emotional and cognitive needs. An integral part of individualization is *human* instruction or mentoring (possibly combined with static content or AI) during the course of training. This process can be achieved by pairing each trainee with an online mentor or individual trainer who then coaches that trainee throughout the program. Within deadlines and time parameters for work products, trainers provide tailored feedback protocols based on trainees' performances on the simulations, referred to in the previous section on "Immersion." Trainee feedback can be embedded locally within the interaction under review, provided via a more global assessment—or both.

Even in settings where some training necessarily is conducted via trainer-to-group, results can be assessed and/or addressed individually, with some aspects of the interaction taking place one-to-one, thus accounting for both employee privacy and unique learning needs. Such methods of individualization also account for individuals' questions and/or problems with various stages of training.

The principle of *Association* targets individuals' need to work "in connection" with others. In virtual workplaces—as well as face-to-face workplaces—employees often seek relationships with co-workers. As such, fostering a sense of "team" with trainers and other trainee participants is important to success, particularly in the online context. Many scholars call a professional and/or educational team that works together toward a common end a "community" (e.g., Hewett, 2004; Cargile Cook, 2005; Rude, 2005). Given the intricacies of the relationships and group dynamics of a community, however, we find many scholars' definitions of community oversimplified. We choose, therefore, a term inspired by Martin Buber (1923): "association." We view training as a means of facilitating "cyber-associations" that are grounded in a *transactional* or *business* purpose—employees developing professional relationships with one another within the context of working toward a shared company mission or goal (Hewett & Ehmann, 2004). Also alluding to the complexities of community and collaboration, Gignac (2005) highlighted the distinction between cooperation and collaboration: "concurrent effort in the pursuit of congruent goals for personal compensation" (p. 62).

In the context of online training, cyber-associations foster that which Renwick (2001) labeled a "facilitator network"—a group that is comprised of fellow trainees/co-workers and supervisors. A cyber-association is not unlike the various special-interest group list servs, or expanded networks, such as the Box Hill Learning Network which affords a "'playground' for experimentation and practice" (p. 5) and allows for scheduled conferences or more impromptu avenues for discussion. Trainees can then air various concerns and exchange particular strategies and approaches that ultimately promote both individual and programmatic growth. In the same vein, creating sub-group list servs or distribution groups amongst trainees helps to create relationships around the "cyber-water cooler" (Hewett & Ehmann, 2004, pp. 18-19). Further,

collaborative technology supports group views of training (especially synchronous) and archived training sessions. Such mechanisms help training coordinators provide business-related systems of "lead" and "non-lead" co-workers or trainers who mentor and train online "buddies." This mentoring is key to scaling one-to-one training.

The last principle—*Reflection*—addresses the potential of training to be a reflective and iterative process during which trainees' assumptions about their work product and processes are identified, challenged, and potentially refined. As such, allowing occasions for trainees to alter their practice based on what occurs in the online context is a valuable opportunity for individual as well as programmatic growth. "Reflection" is infinitely more complex than merely "thinking about" one's practice. The emphasis here is that programs can account for how and when trainees consider their practice and then use such accountings to improve both employee practice and training program goals. Highlighting perhaps the greatest advantage of online training, interactions between trainer and trainee, or instructor and student can be saved and archived. As such, online experiences are exceptionally ready for analysis.

In practice, an online employee's recruitment and screening process for an online position can involve a problem-based introduction into the online environment through simulations that demonstrate the applicant's strengths and weaknesses. Transitional communication with the coordinator/recruiter can then set expectations about the type of self-analysis that will be promoted throughout the training program. Follow-up meta-cognitive or evaluative tasks can be positioned at varying stages of the process. Further, static content as well as archives of past training work can be made available for review and reference.

FUTURE TRENDS

Both historic and future trends indicate that technology is never static. Advancements in all areas of communication and network interfacing occur and are, by definition, expected to occur. As such, employees in virtual, hybrid, *and* traditional labor environments must learn and adapt to new ways of working, communicating, and delivering services. Institutions, therefore, must embrace an ever-present need for adapting training and professional development procedures and processes in effective, scaleable, and efficient ways. Given this landscape of change, we argue that future expectations for online training for all institutions—and in particular those institutions that host virtual working teams—hinges more on the transference and application of the principles reviewed in the previous section of this chapter than on any one particular technique, platform, or innovation.

Taking account of the aforementioned principles and mirroring the types of future innovations and expectations outlined by, for example, Driscol and Carliner (2005), Horton and Horton (2003), and Illegems and Verbeke (2003), the rest of this section provides a blueprint of a training program that combines both asynchronous and synchronous modes of working. The key to this example program, however, is that it is embedded within a *principle-centered* training framework. It provides institutions a means of accommodating and leveraging ever-changing work circumstances while still delivering a stable, educationally viable training program in which trainee learning and company profitability remain complimentary foci.

As indicated at the start of this chapter, this training is designed to be conducted with a disparate group of employees located across the globe—an increasingly present characteristic of virtual workplaces in the corporate world (Ghaoui, 2004; Gignac, 2005). Given this trend in virtually expanded relationships, we expect that future online training will have to address more complex ways of working. Within the context of asynchronous and synchronous modalities, therefore, the training framework presented here focuses on high-touch consultative activities.

Although transferable to small-group interactive activities, the core of training involves one-to-one feedback between trainer and trainee on various exercises associated with each modality. With planning, it also meets both quality and operational efficiency objectives.

Specifically, online tasks reflect the online work that employees will ultimately do. While there is some flexibility for retraining at certain stages, each individual progresses through training via the completion of tasks associated with particular deadlines. Individual deadlines for task completion are: (1) negotiated between training pairs, which may save internal administration time and oversight, or (2) imposed by higher-level management. Heeding Gignac's (2005) insight that corporations need to place more and more value in the virtual employee/trainee, the blueprint also positions new employees not just as trainees, but also as strategic partners in a process in which employers analyze outcomes, explore the perspectives of the participants involved, and endeavor to accommodate identified needs—thereby ultimately improving client service and company output. Training, however, is not a static, sequential set of steps. Rather, it is both generative and recursive in that it promotes a culture of observation, reflection, and practice—on the trainee level as well as programmatic level (Hewett & Ehmann, 2004).

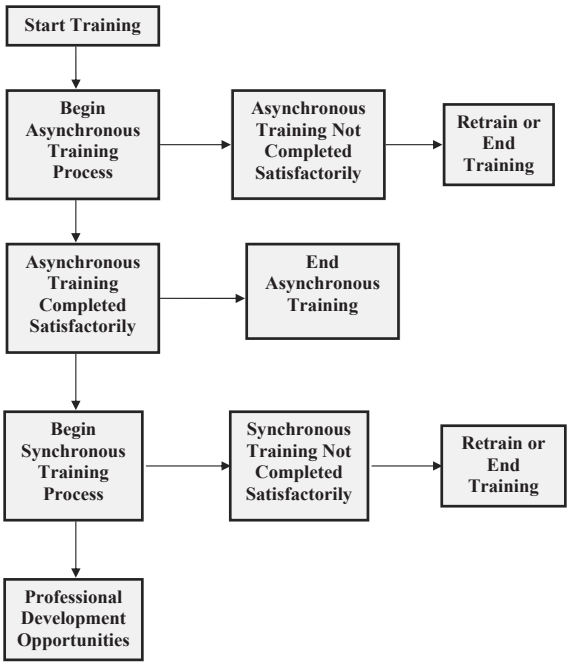
Implementation Strategies for Online Training

Presenting a "road map" of different phases of online training, Figure 1 illustrates the union of those principles in practice.

Figure 1 highlights the implementation of learner-centered practical exercises that are complemented by self-evaluation and trainer feedback. Important characteristics are as follows:

- Before the start of training, a head supervisor pairs trainers and trainees. Trainers are then provided with detailed background information about particular trainees including, but not limited to: educational background, experiences, professional characteristics (including strengths and weaknesses) from their screening results during the recruitment phase.
- Once employees embark on the orientation process, they complete a series of tasks including: platform-based technology orientation, asynchronous projects, synchronous projects, and meta-cognitive self-reflection. Most of these exercises are also what Driscoll and Carliner (2005) would label as "problem-based" exercises—in which trainees must focus on the resolution of particular issues with each training task.
- Paired with a direct trainer who reports to one main departmental supervisor/director of training, trainees receive feedback from their trainer with every stage. In such a human adaptive approach, the trainees can stop and retrace steps as needed—but

Figure 1. A learner-centered training model. Smarthinking, Inc. © 2003, Used with permission (reprinted from Hewett and Ehmann, 2004, p. 27)

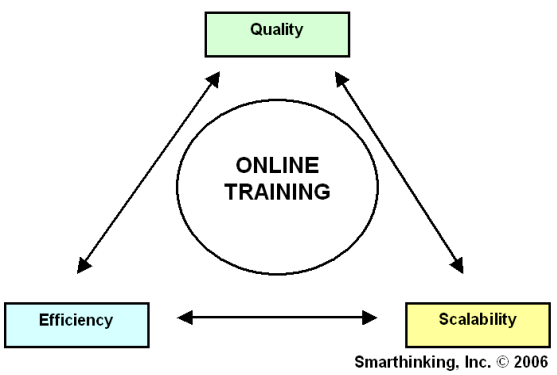


must seek approval for revised timelines from their immediate trainer. Cognizant of overall deadlines, trainers are authorized to grant intermediary extensions at their discretion.

- Given that training occurs online, all trainer and trainee interactions are saved and archived in an individual "orientation portfolio" for each trainee, to which departmental supervisors also have access.
- With each stage, expectations about due dates for particular tasks and response rates are conveyed.
- Throughout the entire orientation process, teacher-trainees may use a variety of tools such as live chat, e-mail, and a listserv to communicate and support their development.
- With each stage of training, trainers also convey their feedback on individual exercises following pre-determined mechanisms that involve both open-ended and closed-ended feedback options. While there is flexibility to individualize responses to a particular trainee, the communications protocols across training pairs are consistent. In many cases, trainers may use quantitative means of describing their assessment of qualitative progress. To that end, progress, pass, and fail rates for trainees are measurable. Final outcomes, however, are accompanied by qualitative critique that is used to actually teach trainees during the course of training.
- After successfully completing the asynchronous phase, for example, those employees who will also conduct work activities in synchronous environments then begin the synchronous segments of their training program—in this case live online teaching (of course, the order of synchronous and asynchronous training should be determined based on the business model and/or mission). Direct trainers, if possible, remain the same throughout all portions of training.
- Trainees experience the position of "client" explicitly, as they practice role-playing first from a client's position and then from the employee's position as consultant.
- Because training is conducted between individual training pairs, there are options to scale the program quickly. By regulating the deployment of new trainers, the program can grow exponentially or be scaled back as needed (e.g., Sharpe Russo, 2001).
- Finally, all trainers report to a training/departmental supervising head who grants trainees final approval. This individual also reserves the right to overrule, modify, or change any trainer recommendations. Such delegation of responsibilities is not unlike those outlined in scholarship by, for example, Berg (2005), Lechuga (2006), and Ruch (2003), who described the efficiencies gained by separation of teaching/development activities from broader management activities within an organization.

Thus, the online training process inherently recognizes the individuality of the trainee at every point in the process, but remains within the overarching shell of (1) time-sensitive operational guidelines and (2) overall steps of the program, illustrated in Figure 2.

Figure 2. Online training goals. Copyright 2006, Smarthinking, Inc. Used with permission.



CONCLUSION

As we have described, the general lack of research into online training for virtual workplace settings and virtual employees leaves a substantial gap in online training for business settings. We have described and outlined a principle-based training program that fills this gap. Yet filling a gap is not enough. Given current evidence that suggests the number of virtual workplaces will only increase in years to come, businesses need to test the process of applying such principles to their own settings. Researchers need to know more about their assessments of their companies' unique processes and products—from both qualitative as well as quantitative data. Undoubtedly, more companies will see the potential benefits of leveraging the Internet for their work and for hiring employees. The boundaries from a global economy are more porous and flexible, which will require increased sophistication on the part of those who develop company training programs. Such sophistication will come with built-in data and support from the kinds of principle-centered training programs that we have recommended.

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KEY TERMS

Online Human-Adaptive Training: Internet-based training or professional development programs for individuals or employees in various contexts. Such programs require the involvement of person-to-person contact (in, for example, asynchronous or synchronous modes) throughout training activities.

Principle-Centered Training Framework: The overarching operational and/or educational tenets that inform the design and implementation of an online training program. Such overarching principles can be applied to various training modalities—whether a program involves asynchronous e-mail, synchronous messaging, or particular commercial software for an orientation classroom- or Internet-based networking platform. The result is a qualitatively strong, yet "contextually adaptive" training program that will remain structurally sound despite a company's technology changes, upgrades, and/or program developments (Hewett & Ehmann, 2004).

Investigation: An online training principle regarding the need to strategically and intentionally explore the efficacy of the training processes for the participants involved and, in turn, a company as a whole. Investigation also addresses the need for more empirical research about the effect of the online medium on various work processes.

Immersion: An online training principle regarding the process of engaging trainees *firsthand* in the online environment throughout training activities. When training is designed to include immersive Internet-based activities that reflect the online environment in which trainees will ultimately work, employees can transition into their online work more efficiently.

Individualization: An online training principle regarding tailoring training activities to meet the needs of individual participants. Within the online training context, employers can reconcile the operational requirement for standardization with trainees' needs for flexibility or individuality as they progress through training.

Association: An online training principle regarding individuals' needs to work "in connection" with others. Fostering a sense of "team" with

trainers and other trainee participants is important to online training success.

Reflection: An online training principle regarding the potential of training to be a thoughtful and iterative process during which trainees' assumptions about their work product and processes are identified, challenged, and potentially refined. More complex than merely "thinking about" one's practice, "reflection" means that programs can account for how and when trainees consider their practices and then use such accountings to improve both employee practice and training program goals.

ENDNOTE

[1] For more information about Smarthinking, Inc., see www.smarthinking.com