Preface

Scenario 1: Multiple instructors are co-teaching an online course that was built among multiple institutions. The learners themselves hail from various parts of the world. The instructors use a shared learning management system. All three instructors trained on the LMS through a distance-taught course and created various learning objects for this shared course during that experience. Because of the cross-disciplinary nature of the course, each of the faculty members has to learn about each other’s fields in order to create a coherent interdisciplinary course. They each access generalized open-access courses on the respective topics in each other’s fields in order to enhance their abilities to collaborate. They also access content networks (such as video-sharing sites) to acquire generalized learning and habits-of-mind in other fields. Theirs is informal self-discovery learning.

Scenario 2: The members of the steering committee for the community organization collaborate around multiple events during the year. They also have some freestanding projects, including editing a newsletter. They also address budgetary issues. The group uses a new software program for Web conferencing, which enables the individuals to connect over distances in real time and to share information and digital files. The members use their shared time, in part, to train each other on their various areas of expertise—in technologies, social media platforms, and other professional practices. The organization is known for its tech reputation, and part of that reputation is upheld with an informed steering committee.

Scenario 3: Professionals have been tapped to serve on an editorial board for a national professional organization. These individuals have agreed to serve for a multi-year commitment. Their work involves participation in a double-blind peer review process overseen by an editor. To collaborate effectively with the lead editor, the team members train in using an online workspace to share files and reviews. They are coordinating through this socio-technical space. Much of their training is on-the-fly as part of their work.

Scenario 4: An aerospace company has presences on multiple continents and in varied locations. They have a 24/7/365 cycle during which they must train their employees who work in a range of fields, are in various stages of their professional life cycles, are from various cultures, and have a range of different first languages. This organization has a large network through which training materials may be sent anywhere in the world; much of their contents are electronic and delivered through their own internal learning management system. Some of the trainings are achieved by professionals Face-to-Face (F2F). This is formal training.
**Scenario 5:** A group of faculty is working on a shared grant-funded project across multiple institutions. This group is comprised of faculty with discrete areas of expertise. The group is building to a technology system that is emergent and being designed to fit the needs of the project. While the team has met physically over the years to hash out some of the larger decisions of the project, their unique responsibilities keep them in their respective institutions much of the time. They train into the affordances of Information and Communication Technologies (ICT) because that is a core functionality that is required for the success of the project.

Each of the above scenarios is common in the contemporary work space. The above all show dispersed work teams collaborating around shared work. All of these are based on real-world situations. These are only a small and limited sample, but some of the dynamics generalize across contexts. These dynamics include dispersed work and the use of Information and Communication Technologies (ICTs) for training.

Modern workplaces begin training their employees from the start even if their new hires already have freshly minted university degrees and professional experience. With the brief “shelf life” of university degrees and the unique requirements of most workplaces, training is a core element of competitive advantage for a company, and it is a sheer necessity for all employees (who have to acquire and maintain constantly changing skill sets and capabilities in order to be competitive). To meet their training needs, many workplace-based trainings are offered on-the-fly through Web-based delivery. In that spirit, remote workforce training is instituted to prepare people for today’s work with challenging and dynamic skill sets.

From day 1 and throughout people’s working lives, they will continue training. They will engage in organization-based trainings on culture, ethics, and legal compliance training. They will train in areas based on their professional roles and the changing skill sets they have to employ; these trainings focus on general (decision-making and judgment, workplace processes and methods, leadership, quality control efforts, foreign language learning, professional intercommunications) and discrete skill sets (usage of various technologies). With the complex tasking of work places, which function in globalized and complex environments, individuals are facing ever-more challenging skill sets that are unique to their positions. Companies invest in employee trainings to increase employee productivity and satisfaction, advance skill sets, minimize skills decay, and lessen company liability (by increasing workplace safety, and increasing compliance with industry regulations, for example). These are only mainline sorts of trainings. In certain high reliability domains (such as in healthcare, military, flight, and other contexts), the in-depth education and training are designed to remake the individual.

Workplaces are not discrete shared physical spaces in the modern age. Rather, the world is the office. For some, the constant travel and physical dislocation are regular workplace features. For others, a percentage of their work lives involve working on distributed teams; many work with colleagues from around the world—with some whom they will never meet in person. With so much in the way of electronic connectivity, people work from cubicles and offices, hotel rooms, airport lounges, the backs of taxis, and on planes and trains. Work is a part of private lives and private spaces as well, with home offices and various kinds of split attention. The “office” is where the technology is, with work stored on remote servers and work achieved through a variety of devices. Modern work life is virtually non-stop. Work life is also deeply connected electronically, requiring deep electronic presences and intercommunications with colleagues both domestic and foreign. The competitiveness of globalized environments, the speed of work, the thickets of legal requirements in professional fields, the rates of technological change, the diverse workforces, and the complexities of modern work all contribute to the demands for a range of trainings.
Advancements in training methods and technologies enable the provision of training virtually anytime anywhere. Organization-wide training systems enable the delivery and tracking of learning throughout global companies. The popularization of Web 2.0 has led to a variety of open-source training endeavors, through open-access shared content networks (like YouTube, Flickr, BigThink, TEDTalks, Khan Academy, and others) and Massive Open Online Courses (MOOCs). There are global Webinars and Web conferences for the sharing of learning.

To contextualize training, consider the various types of workplace trainings instituted regularly. Compliance training fulfills the legal requirement to prepare workers to abide by new laws, adhere to new policies, and follow new practices. Skills trainings help individuals add new skills and protect themselves against skills decay. In the modern workplace, training is a continuous and necessary aspect of work life. Some training programs are used to orient new workers to the company. Some trainings convey soft skills, such as acculturation to a professional life, a new workplace, or an international environment. With new software, technology trainings are necessary to build understandings and skill sets. Some trainings develop automaticity skill sets for difficult environments, such as in sports and the military. Others are customized trainings that are designed for specific individuals like sitting-CEOs and other leaders. These include high-end trainings by world-class specialists and CEO-coaches; they include training for highly specific goals, such as innovation and visioning. Trainings today include informal learner-driven types of ad hoc trainings, which use the WWW and Internet as personal learning environments.

Remote workforce training is ubiquitous. It is often just-in-time, or offered at the point-of-need. Remote workforce trainings are deployed even for co-located employees of organizations because of the training delivery efficiencies, cost-savings, relative security, convenience, and trackability of learner work. Further, such virtual trainings enable effective rollouts even with a globally distributed workforce or one that is constantly on-the-road for meetings, work, and conferences.

Many types of Information and Communication Technologies (ICT) are deployed strategically to offer easy access to anytime/anywhere trainings. Some delivered trainings may include tangible media like DVDs and thumb drives or content-loaded mobile devices. Other training experiences are accessed through intranet systems or learning/course management systems. Still other trainings use mixed media—both face-to-face and high-tech elements. The deployment of digital trainings on a range of (discrete and integrated) platforms and devices—and by a variety of training providers—offers unprecedented ways to design and cobble mixed trainings for particular skill sets. The affordances of ICT not only enable convenience in training, but they enable collaborative elements in trainings, such as by bringing together co-learners from multiple physical locations. They enable more stochastic simulations with others in role-playing contexts. They enable the deployment of various types of in-world games and augmented reality applications for more complex learning and learning reinforcement.

Most organizations use a variety of training types. The training may be formal and required by the workplace, or they may be informal and designed by the employee based on unique interests. (Innovative work places set aside formal time for their employees to pursue unique learning interests, with the idea that their outside learning will benefit their creativity for the organization.) Most workplaces include on-the-job training as part of the learning mix.

Third-party content providers offer a range of contents for study. Some may be live-hosted Webinars while others are pre-recorded digital contents. Some companies have in-house training units for the creation of particularly unique trainings for particular parts of their workforces. Many use existing community resources—such as public and private universities—to aid in the training of their workforce, both prior to
their hiring and then during their professional lives. Given the many sources of trainings, people earn a range of certifications, Continuing Education Credits (CEUs), and university- and college-based credits.

The current research on remote workforce training has focused on various types of multimedia, remote learning instructional design, and specific training for coalescing virtual teams. This work focuses on cutting-edge designs and unique cases of deployed training systems that engage social media, unique strategies and tactics, fresh designs, various training platforms and devices, and other approaches to more actively and effectively engage workers in knowledge- and skill-building training. In a time of severe budget cutting globally, trainings have to be provided in efficient and effective ways while addressing the heightened competition in a globalized flat-world environment.

There is a truism that suggests that how people train is how they fight. If people are to bring their best capabilities to their work, they need to train in relevant ways in relevant topics and in the right sequences for optimal effects.

**OBJECTIVES OF THE BOOK**

The main objective of *Remote Workforce Training: Effective Technologies and Strategies* is to explore some of the design strategies and methodologies, pedagogical and technological, used for distributed workforce trainings, with a special focus on ICT. It was hoped that a range of research would showcase unique approaches to various types of topic-based or skills-based trainings. Initially, it was thought that the text could encompass the entire lifespan of training, from the initial needs assessment, learner assessment, training design, deployment, training efficacy assessment, and then the new training cycle. As it turned out, this text offers strategies and insights from the real world that addresses some of these topics in more depth than others.

The target audience for this text includes workplace trainers and instructors, instructional designers, multi-media content creators, technologists, and administrators who are in charge of training. This text may also be useful for instructors working in higher education, working to train individuals in how to create remote workforce trainings.

**AN OVERVIEW OF THE TABLE OF CONTENTS**

*Remote Workforce Training: Effective Technologies and Strategies* is organized around four basic sections. Section 1, “Strategies, Frameworks, and Models for Remote Workforce Training,” focuses on the conceptual and applied strategic frameworks used in remote workforce training. The works here focus on a range of ways to model and approach the design of effective training systems for organizations. Section 2, “Applied Remote Workforce Training,” provides real-world and innovative examples of remote workforce training in a variety of contexts and on multiple continents. These examples range from trainings for trainers, teachers, police, and others, in a range of unique contexts and technologies. Section 3, “Analytical Tools for Remote Workforce Supports,” is based on the assumption that remote workforce trainings are more effective when there are tools that enable situational awareness for managers and team members to unify distributed teams and enhance collaboration. The chapters here focus on technological tools that may be used to understand distributed team dynamics. Finally, Section 4, “Innovations in
Remote Workforce Training,” examines possible futures in remote workforce training, such as the uses of Massive Open Online Courses (MOOCs) for varied applications.

It is helpful to begin with frameworks from which to conceptualize and design remote workforce trainings. Section 1 is comprised of four chapters focused on frameworks and models. In the first chapter, “Four Strategies for Remote Workforce Training, Development, and Certification,” Dr. Rob Gibson highlights some cutting-edge strategies for remote workforce training—in the forms of the uses of open systems, badging and open badging, gamification and 3D, and learning-support managers. Drs. Jason Caudill and Barry Reeves, in Chapter 2, “Strategic Management of Workplace E-Learning,” present a high-level view of the strategic advantages of e-learning. Dr. Kipokin Kasemsep offers a unified framework on approaches that encourage occupational satisfaction, trainee reactions, learning perception, and training transfer in Chapter 3, “Constructing a Unified Framework and a Causal Model of Occupational Satisfaction, Trainee Reactions, Perception of Learning, and Perceived Training Transfer.” Dr. Shalin Hai-Jew describes the design of online policy compliance training in higher education, in Chapter 4, “Online Policy-Compliance Training in Higher Education: A Preliminary Design Model.”

There are a number of cases from real-world applications of remote workforce training that may inform best practices in the field. Section 2, “Applied Remote Workforce Training” consists of four chapters focused on unique remote training contexts. Drs. Tsung-Jui Tsai and Ya-Chun Shih provide an in-depth approach to an effective use of podcasting and metacognitive strategies to enhance the learning of English teachers in Taiwan, in Chapter 5, “Teacher Professional Development: Remote Podcasting and Metacognitive Strategies.” In Chapter 6, “The Power of E-Learning: An Effective Solution for Turkish Police Management Training Courses,” co-authors Drs. Ali Semerci, Hafize Keser, and Yasar M. Ozden describe a high-level training program for developing Turkish police in management training. In Chapter 7, “Effective Technologies and Strategies for the Development of Teachers and School Leaders: Case Studies from the Northern Territory of Australia,” Drs. Kathryn Moyle, Glen Speering, Donna Murray, and Jon Mason present three case studies of professional learning in remote contexts in the Northern Territory of Australia and their analysis of findings from these. In Chapter 8, Drs. Benjamin Chapman, Sarah Kirby, and Katrina Levine discuss “Lessons Learned from Distance Workforce Training Applications: Example from Cooperative Extension.” With the mandate of the North Carolina Cooperative Extension (NCCE) to deliver quality education to the state’s citizens, the trainers use distance education in effective ways for crisis response and varied competency development.

The work of remote collaboration requires awareness of the various team members as well as the overarching team. To this end, there are a number of contemporary tools that may enhance awareness of a distributed team. Section 3, “Analytical Tools for Remote Workforce Supports,” is comprised of three chapters dealing with technology tools that may be used to analyze remote team dynamics. Chapter 9, “Analyzing Work Teams Using Social Network Diagrams,” describes the use of network analytics to understand team members and their relative power structures and functions through structure analysis. Dr. Shalin Hai-Jew depicts three team-based projects as social network diagrams in this work, and she suggests ways that social network diagrams may be used in pre-, during-, and post-project phases. In Chapter 10, “Using Stranger Small World Networks for E-Marketing in Academia,” Hai-Jew proposes the use of Maltego Radium® as a tool to understand stranger small world networks on the Internet and the World Wide Web to promote academic offerings. Chapter 11, “In Plaintext: Electronic Profiling in Public Online Spaces,” spotlights multiple tools used to gather Open-Source Intelligence (OSINT) to profile entities in public electronic spaces. In this work, Hai-Jew expands the public sense of “know-ability” with the affordances of commercial and open-source analytical tools.
To promote the efficacy of remote training, there have been a number of innovations—technological and pedagogical and others. Section 4, “Innovations in Remote Workforce Training,” focuses on innovations in training—particularly in terms of open learning resources, which include a range of open-access and open-source endeavors. Dr. Ramesh C. Sharma highlights an open training community in Chapter 12, “Learning4Content: WikiEducator’s Training Initiative in Education.” This section also contains an extended work—a piece involving modified electronic Delphi method research on the feasibility of massive open online courses: “Iff and Other Conditionals: Expert Perceptions of the Feasibility of Massive Open Online Courses (MOOCs) – A Modified E-Delphi Study” (Chapter 13).

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