The technology revolution is for all practical purposes a major revolution in the history of modern society, impacting every facet of education, business, and industry with a speed beyond one’s imagination. Now in the 21st century, technology has taken a higher place in the context of learning and development.

With new information technologies born, with a strong focus on the dissemination of information for both producers and consumers, the focus has now shifted to how technology best be used to harness and develop one’s own learning potential. This learning potential has been largely due to the expansion of the World Wide Web and new innovative techniques to learning and development.

In this current decade, the Internet and its associated communication technologies have become a driving force in education, allowing people worldwide to communicate and exchange information in ways that have created a new dimension and taxonomy of learning. In recent years, through the use of Web-enabled technologies, educational institutions and businesses of all types have developed and expanded their traditional learning programs in order to meet the diverse needs of a global population. These technologies now allow for readily available learning and training opportunities for everyone regardless of their geographic location, bringing the true meaning of the education across the seas to its full realization. This is modality of learning is made possible through advances in human performance and instructional technology.

With advances in human performance and instruction technology come advances in teaching and learning and methods for rethinking the teaching and learning paradigm all together. These advances – advances in hardware, software, internet capabilities, and applications have led to an every widening, yet condense form of interaction, networking, learning, and personal development. With this new understanding of the new aim of human performance and instructional technology is to integrate the three foundational areas into improving the teaching and learning process. These three foundational areas include:

1. **Design**: The systematic identification of educational needs and the subsequent design, development, implementation and evaluation of materials for use in classrooms and at distant sites.
2. **Development**: The production of materials to meet specific educational objectives including multimedia programs, graphics, and video.
3. **Research/Evaluation**: The planning, design, and implementation of research and/or development projects that apply educational technology principles to any aspect of education or training in a variety of settings, including schools, industry, medicine, and the military.

By integrating each of the three foundations, instructional technology paves way to new educational and learning experiences. Looking into this new era of possibilities, instructional technology is considered to be much broader than hardware and software. It is considered a new way of reflection and rethinking ones learning potential.
Instructional Technology includes analysis, design, development, evaluation, and implementation and management of instructional systems and other learning environments that contribute to learning and the development of the mind, body, and spirit. Within this discipline, the theoretical research explored in the field is interdisciplinary, encompassing instructional design theories and models; learning and cognition; instructional strategies and tactics; visual design, media design, and interaction design; usability testing and evaluation; educational systems design; production and management systems; and human performance improvement. These contexts include adult learning in business, industry, government, health institutions, and the like.

As we look at this field in depth, we can see the influences impacting the quality and levels of engagement between the instruction, the learner, and content materials within any given learning environment. This has caused some to reconsider the value of using instructional technology and differentiated instruction. Moreover, aspects of social interaction like mentoring, role modeling, and community are by products of instructional technology and human performance. More often, when forced to use instructional technology in teaching, instructors will default to a technology enhance lecture mode, rather than taking advantage of the variety of instructional technology solutions that can expand the teaching and learning process and the educational experience of the learner. While instructional technology and human performances promises solutions to many educational problems of today, resistance from faculty and administrators to the use of instructional technology and human performance is not unusual. This reaction can arise from the belief - or fear - that the ultimate aim of instructional technology is to reduce or even remove the human element of instruction. Most instructional professionals however, would counter with this claim that education will always require human intervention from instructors or facilitators. With this key idea in mind, the aim of this publication is not to persuade an individual to use instructional technology and human performance techniques; however, the aim is to present strategies and applications of instructional technology and human performance that can benefit learners in the business or educational context. The idea is to inform both educational and business practices.

Because instructional technology and human performance has profoundly impacted every aspect of life of our lives, many researchers around the world have focused on accumulating knowledge on this discipline in order to advance the field forward. The volume of research in the field of human performance instructional technology has by far exceeded many other fields. The sheer impact of research discoveries in this area has become the driving force for many emerging technologies and applications for improving teaching and learning. No longer is this discipline limited to a few areas such as education, but, similar to the field of medicine, business and industry, government and the military. Today, the field of human performance and instructional technology is a collection of many disciplines researchers have created. This collection has been accomplished by producing research to understand the potential, problems, and challenges of each individual discipline, while trying to expand the body of literature related to instructional technology.

To access the latest trends in research in instructional technology and human performance, the decision was made to assemble a handbook where researchers from a global perspective could assist in providing the necessary coverage of human performance and instructional technology. This has lead to the Handbook of Research on Human Performance and Instructional Technology. The primary objective of the book is to highlight current research by defining the most relevant aspects of human performance and instructional technology, terms, strategies, models, and acronyms related to each discipline, and to provide the most comprehensive listing of references related to this field of research.

This book addresses the connection between human performance and instructional technology with teaching and learning, but more importantly learning and development. Using sound instructional and learning design principles, innovative ideas for instructional technology applications, e-Learning, the
socio-cultural aspect of instructional technology and human performance, the authors in this book guide the reader from focusing on the technology as a tool, to focusing on instructional technology as a change agent – changing the way we look at learning.

In order to provide the best balanced coverage of concepts, strategies and trends related to the topics of this handbook, current researchers from around the world were asked to submit their chapter describing their unique coverage of human performance and instructional technology. Each chapter submission began with the proposal phase. Following the authors submission, each proposal was submitted for blind reviewed by a team of reviewers who indicated an acceptance or rejection of the proposed chapter. Following the proposal review process, each author was then given permission to complete their own chapters for the handbook. After completing their respective chapter, the chapter was then submitted once again for blind peer review. After a two round rigorous referred process of two reviewers, the chapters that were strong and favorable from the reviewers were chosen as entries for this handbook. The idea was to assemble the best minds in the instructional technology field to contribute entries into the handbook. As a result of the double blind submission process, this handbook includes more than thirty entries highlighting current concepts, issues and emerging trends, frameworks, and strategies relating to instructional technology and human performance. All entries have been written by leading scholars from many prominent research institutions around the world.

The Handbook of Research on Human Performance and Instructional Technology will provide great valuable to wide range of audiences. These audiences include members from higher education, primary and secondary education, business, industry, as well as federal, state, and local governments and the military. Specifically, this handbook will provide higher education faculty and administrators, educators, researchers, trainers, instructional designer, students, and anyone else interested strategies and frameworks in how to implement effective instructional technology applications to promote high quality active learning. Further, this book will provide a valuable resource to corporate executives and human resources administrators seeking examples of how to blend instructional technology with their training and performance improvement initiatives, as well as insights into where such blending might be financially attractive, efficient and strategically beneficial. Training managers might take advantage of examples from this book to help justify eLearning initiatives and strategic plans. This book also appeals to higher education administrators struggling with issues on where to place value and resources as it relates to online and distance education. Clarification of the range of blended learning models can help administrators and staff members from learning and teaching center on college campuses to training faculty member for a wealth of online and face to face teaching possibilities with instructional technology and human performance techniques. Teaching with instructional technologies is a new experience for most college faculty, so having a range of examples of how to utilize concepts of instructional technology and human performance in the teaching and learning process will become extremely vital. Whether one is designing, developing, implementing or management an online course or designing a technology rich student centered learning environment, instructional designers, teachers, and practitioners alike will need information concerning instructional technology and human performance. Those in the field conducting research in will benefit from reading chapters on the current research and applications both from the corporate perspective, but also from the education perspective. Finally, policy makers reading or accessing this book will discover the value and power in using instructional technology and human performance to promote excellence in quality and in learning and development. Hence governmental funding for these types of initiatives and projects needs to reflect this fact. Increasingly, instructional technology and human performance is playing a vital and significant role in such educational activities.

The chapters authored were selected based on their expertise and leadership roles within the field as well as their unique perspective on the subject matter. With the combination of corporate and military training, non profit organizations, primary and secondary schools, higher education institution, and the
medical industry, a wide range of perspectives were covered in this handbook. Further, this handbook highlights instructional technology and human performance as a growing field of study which uses technological innovation as a means to solving educational, learning, and development challenges.

The chapters presented are not organized by industry. Instead, they are divided into five sections. These themes include instructional and learning design foundations, instructional technology applications, e-Learning, the sociocultural aspects of instructional technology, and human performance technology. This way, the Handbook of Research on Human Performance and Instructional Technology will present different approaches to promoting quality learning and development strategies through technology. Moreover, this handbook will provide a sure foundation on different types of instructional design methodologies, tips and strategies on how to use technology to facilitate active learning, a discussion on the sociocultural aspect of instructional technology and trends in human performance technology. In addition, this will provide related a platform and discussion to help faculty, trainers, instructional designers, and teachers to develop online instructional and teaching materials. This handbook also shows instructors how to create authentic and active learning environments with instructional technology complete with an assessment and evaluation guide. Lastly, the handbook provides a platform to assist college and university faculty, trainers, and research to manage and develop eLearning applications with updated strategies that facilitate learning and human capital development in a business context.

For all practical purposes, this handbook discusses various methods and tools for assessment, testing and evaluating of effective instructional technology and human performance strategies for the educational opportunities and learning development challenges. For the future development of instructional technology and human performance, this book gives a discussion on the trends and issues facing the field as well as progression as to where the field may be headed. In the end, this book contains a wide range of ideas, examples, guidelines, stories, models, and solution for anyone interested in the field instructional technology and human performance.

With a diverse and comprehensive coverage of multiple perspectives presented in this authoritative guide, the Handbook of Research on Human Performance and Instructional Technology will contribute to a better understanding all topics, research, and discoveries in this evolving, significant field of study. Further, the contributions included in this handbook will be instrumental in expanding the body of knowledge to a wider audience. The coverage will provide a strong reference source for both instructional technology and human performance researchers and also decision makers seeking to obtain a greater understanding of the concepts, issues, trends, challenges and opportunities within human performance and instructional technology.

It is our sincere hope that the Handbook of Research on Human Performance and Instructional Technology will assist colleagues, faculty, students, teachers, and business decision makers in enhancing their understanding of this discipline and to effectively integrate instructional technology and human performance to meet the needs of all learning populations. Perhaps this publication will inspire its readers to contribute to the current body of research in this immense field, tapping into possibilities to create, facilitate, and sustain change in educational institutions by making learning and development opportunities open and engaging to participants.

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