

*Corrections Learning and Performance:  
A Vision for the 21<sup>st</sup> Century*



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Corrections Learning and Performance: A Vision for the 21<sup>st</sup> Century White Paper  
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## Foreword

In the mid 90's, when Randolph Westerfield became Dean of the Marshall School of Business, he suggested in an early speech to his faculty that the future of business would be driven by the concepts of globalization and a world-wide market. He challenged his faculty to learn not just about the United States, where business has become somewhat provincial and static in its approach, but about the world and its complex environment. Technology and globalization contribute to the challenges we face in corrections learning and performance today.

To quote Bill Wiggernhorn from Motorola, "we have come a long way from flip charts, blackboards, chalk, overheads, and extension cords." I don't believe we've come far enough. Today's smartphone has more capacity and standard features than the mobile communications system used by the President of the United States just 25 years ago. In the palm of our hands, we can access vast collections of books, papers and periodicals, films, games, music, and newspapers; employ cameras, voice recorders, GPS tracking, and teleconferencing; and search for restaurants, museums, and places of interest in virtually any community worldwide.

The possibilities are almost limitless yet in our classrooms we remain comfortable in our complacency and have still to provide the leadership necessary to move corrections learning and performance into the 21<sup>st</sup> Century. We need to adopt a forward thinking stance; to move away from the maintenance of the status quo. We must explore where we are and where we need to go. We need a vision for our future, a vision that includes the transformation of corrections learning and performance based on the application of research on adult learning and the leveraging of new technologies.

Additionally, our world of social learning, self- directed learners, virtual immersion environments, on-demand learning, on-line mentoring, culture and gender differences, and shared work environments calls for a renewed orientation toward collaboration as well as a healthy appreciation and respect for the differences that exist amongst us.

To that end the National Institute of Corrections has embarked upon the publication of a series of papers to stimulate discussion about the future of learning and performance in corrections. It is our hope that this paper, the first of the series, will engage those of you with a passion for developing human potential in an open dialog and exchange of ideas.

**Robert M. Brown, Jr.**  
*Acting Director*  
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## Abstract

This white paper focuses on learning and performance challenges in the 21st century including the role of technology in learning programs and the incorporation of evidence-based practices into program design and delivery. The paper offers an extensive review of learning research in the areas of theory, learners, learning organizations, instructional design, program design, delivery methods and modalities, learning transfer, and program assessment. The following are the key findings:

- ⊕ Empirical data on adult and workplace learning should be used to drive development and practice, utilizing proven methods to maximize results.
- ⊕ 60 – 80 % of learning takes place outside of formal contexts, yet we spend the bulk of our staff development resources on formal learning.
- ⊕ Agency culture and the way that learning is supported in the workplace are vital to successful learning programs.
- ⊕ To achieve desired learning outcomes, we must consider design, learner characteristics, context, content, and motivational and engagement strategies.
- ⊕ The most important factor in knowledge retention is the quality of the learning design rather than the delivery method.
- ⊕ Online learning approaches are as effective as face-to-face approaches. Blended learning and collaborative learning are the most effective forms of distance learning.
- ⊕ Typical levels of learning transfer are between 10 and 30%. Transfer can be enhanced with proper interventions pre-training, during training, and post-training.
- ⊕ We need to use proven methods to move from measuring training activity to measuring learning results.

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## Introduction

Correctional agencies around the country are challenged by an increasingly transient workforce, exponential growth in technology, and continued budget cuts. Agency leaders, including those within the National Institute of Corrections, are asking such questions as:

- ⊕ How can we support the development of future leaders and the retention of employees in our organization?
- ⊕ How can we embrace technological advances and implement effective learning strategies?
- ⊕ How can we work within the current fiscal restrictions to provide quality learning experiences with less expense?
- ⊕ How can we become a learning and performance agency rather than merely a training organization?

In addition to seeking answers to these questions, leaders in the field increasingly recognize the need to collect, interpret, and disseminate information and evidence as well as the need to consider benchmarking and collaboration as standard practices in order to meet stakeholder needs.

This paper advances a framework for the way NIC's Academy Division will go about the business of answering these questions and meeting these needs: a vision statement if you will. By embedding theory and research in the foundation of our work, by collaborating with leaders in the field, and with continuous assessment of our policy and practice, we envision a shift from being a training agency to being a center of learning and performance.

*"We did not put our ideas together.  
We put our purposes together.  
And we agreed.  
Then we decided."*

*Popol Vuh  
Sacred Book of the Quiché Maya People*

Except when using direct quotations, we have deliberately and purposefully avoided the use of the word “training” in this paper. Why? What’s in a name? Depending on your agency, you may refer to how staff are prepared for duties and tasks as training, staff education, staff development, staff training and development, employee education, human resources development, or organization development.

We propose that “Learning and Performance” are more reflective of the developmental goals for staff in correctional agencies. Learning encompasses not only the formal aspect of classroom delivery usually associated with training, but workplace learning, social learning, breakthrough learning, incidental learning, and organizational learning. The ultimate goal of any learning event is to improve performance. It is the framework of learning and performance that will drive our product development and delivery in the years to come.

As a first step to building this framework, we conducted an extensive review of learning research in the areas of theory, learners, learning, learning professionals, learning organizations, instructional design, program design, delivery methods and modalities, learning transfer, and program assessment.

We invite all learning leaders in the field of corrections, be they directors, administrators, coordinators, or instructors; be they assessors, designers, developers, or deliverers; be they local, state, or federal, to join NIC’s Academy Division in visioning the future of learning in corrections.

## **Background**

### **National Institute of Corrections**

In September 1971, a major riot at New York's Attica prison focused national attention on corrections and the practice of imprisonment in the United States. In response to public concern and recognizing the problems in corrections facilities and programs at the State and local levels, Attorney General John N. Mitchell convened a National Conference on Corrections in Williamsburg, Virginia, in December 1971.

Chief Justice Warren E. Burger, in his keynote address before the 450 conference participants, expressed support for the establishment of a national training academy for corrections. The training academy would:

- ✦ Encourage the development of a body of corrections knowledge, coordinate research, and formulate policy recommendations;
- ✦ Provide professional training of the highest quality for corrections employees and executives;
- ✦ Provide a forum for the exchange of advanced ideas in corrections, and
- ✦ Bring about long-delayed improvements in the professionalism of the corrections field.

The National Institute of Corrections was created in 1974. It first received funding in 1977 as a line item in the Federal Bureau of Prisons budget.

Over the last 38 years, during a period of enormous transformation in American corrections, NIC has been instrumental in improving the management of prisons, jails, and community corrections programs and facilities by promoting correctional practices and procedures that maximize the safety of the community, staff, and offenders. We continually update our strategic priorities in response to the needs of the field.

### Academy Division

NIC's Academy Division enhances organizational and professional performance in corrections by providing learning opportunities to the field. Our primary role is to build agency capacity for workplace learning.

- ✦ Through the Leadership and Management Initiative, we offer a broad range of developmental programs for supervisors, managers, senior level leaders, and future executives who will lead their agencies.
- ✦ The Workplace Learning and Staff Performance Enhancement Initiative is the Academy's effort to build staff development capacity in corrections agencies.
- ✦ The NIC Learning Center offers corrections practitioners access to over 250 web-based courses, hosts virtual instructor-led courses on a variety of topics, and accommodates online registration for traditional classroom programs.



- ✦ Through satellite and Internet Broadcasts, we offer video learning opportunities to address current and pressing topics in corrections.
- ✦ The Regional Training Initiative is a national network, coordinated through four regions, that enables NIC to support correctional learning nationwide.
- ✦ Thinking for a Change (T4C) is a cognitive behavioral curriculum designed to reduce recidivism. The Academy offers program materials and a curriculum for program facilitators.
- ✦ Through Cooperative Agreements, NIC awards funds to partner agencies in support of our program initiatives.

## Problem Statement

As the Academy Division envisioned business plans for the coming years we easily identified multiple challenges facing the field. More importantly, we recognized that we were failing to fully address these challenges within our own division. A review of our business practices and current catalog of products made clear to us that there was a need for action. It is imperative that we explore and address the challenges facing learning professionals, including our own staff, and that we implement a plan of action in response. By building a new model, one based on research, our own body of work, and collaboration with the field, we can address the need to build our internal capacity to assess, design, deliver and evaluate quality programs and services. In turn, we can enhance our ability to deliver needed, innovative, and effective learning opportunities to the field.

## Why This, Why Now?

In 1987, research about a new productivity tool began to surface. Articles were written that called the usefulness of the tool into question, doubting that the new tool could be associated with improved outcomes. A lot of money had been spent on this new tool but there was little evidence to show that the investment was paying off. People were trained on the new tool but there was little evidence that the training was being practiced upon return to the job. The new tool: the personal computer.

Today, we might view mobile learning or e-learning the same way- as passing fads that will have no real impact on corrections performance. Or, we might learn to embrace emerging technology as a way to deliver quality performance support and learning opportunities in real-time, on-demand, and on-the-job.

In a July 2012 interview with *T+D Magazine*, Darin Hartley, the Director of Client Management at Intrepid Learning Solutions, responded to the question, “How has the workplace learning profession changed in the past two decades?”

There has been a tremendous amount of disruption from technological advances, changes in the economy, globalization, and macro-and micro-level forces, all of which have shaped various trends. For example, industry shifts to learning management systems, e-mail, e-learning, knowledge management, and – the latest mega-trend – social learning have been sources of ongoing change. Gamification, another very promising model, is just around the corner. Learning professionals have had to adapt their skills and competencies nearly constantly to remain relevant.

Corrections is a complex business. Today, staff are often called upon to function in roles outside their traditional positions (e.g. a custody officer functioning as a change agent when using cognitive behavioral interventions with an offender). Increased staff responsibilities and the need for additional skill sets will require us to carefully consider the needs of these learners.

In 1998, Anna Sfard wrote about a foundational shift in how theorists view learning: the shift from knowledge as a thing to be possessed (acquisition) to learning as a process (participation). Before and since, experts in the field have been exploring how best to define learning, and in so defining it, cultivating the ability to design and deliver learning events effectively. To quote two of our professional colleagues (Bingham and Conner 2010:14), “Success will go to those...savvy enough to understand, learn from, and leverage these shifts.”

*“We’ve come a long way from the days of flip charts, chalk, overheads, and extension cords. The workplace of tomorrow is here, and it houses many faces, languages, and ages. Baby Boomers interact with Generation X, Generation Y, and Generation Next. Learning is offered in blogs, podcasts, portals, and Skype.”*

*Bill Wiggernhorn  
Originator of Motorola University*

In recognizing that we are facing challenges and opportunities as never before, NIC's Academy Division is excited to address and explore the implications and possibilities before us, to adopt the stance that staff development is a learner-driven process that encompasses multiple aspects of knowledge synthesis including social, formal, informal, immersive, situated, workplace, adult, breakthrough, and mobile learning.

## Research and Theory – Evidence-Based Practices

Professionals in health care and mental health are called upon to engage in and are held accountable to evidence-based practices. As public providers of human services, corrections professionals are increasingly expected to do the same (Austin 2008). Just as there is an evidence base for working with offenders effectively, there is a parallel and ever-growing evidence base of human learning and performance, from how the brain works to how adults learn to how knowledge is applied on the job. We need to use proven methods to maximize learning including evidence on learner characteristics, technology, development, design, delivery, and evaluation (Clark 2010).

*“The growing interest in evidence-based practice has generated a wide variety of discussions related to such questions as: ‘How do you define it?’ ‘How to do it?’ ‘How to teach it?’ and ‘How do you evaluate its feasibility and outcomes?’”*

*Michael J. Austin  
Milton and Florence Krenz Mack Distinguished  
Professor of Nonprofit Management  
University of California, Berkeley*

It's important to note that there is a difference between research (evidence-based practices) and benchmarking (best practices). It's also important to note that not all research is equal. Stone (2006) recommends consideration of the following when conducting research; who did the research, who paid for the research, has the research been

published in a refereed journal, was the research done in a real-world setting, has the research been replicated? Stone (2006:190) goes on to say, “Research can be interpreted in many ways. There is no guarantee that reviewing all the research on any topic will give you the answers you need...The fact is that there are poor studies, incorrect figures, and sloppy research that can cause you to stumble as you are investigating learning programs.”

In our data-gathering process, we relied on multiple sources including academic journals, best practices, and published materials from subject matter experts. While earlier training research

focused primarily on individual learning outcomes, there has been a noticeable shift in the research toward understanding learning at multiple levels. Recent work looks at both learning and performance (Marsick, Watkins, and O'Connor 2011).

## Learners and Learning

No single theory lays the foundation for staff development in corrections. Rather, our learning programs are a reflection of multiple theories; a synthesis of multiple concepts. By increasing our understanding of learning theories, we can improve our chances for achieving desired results (Knowles et al. 2011: 7). Appendix A provides a summary of learning theories and the implications for corrections learning. From the earliest theories (behaviorism) to the most recent (organizational learning) there has been an evolution in focus from an emphasis on the individual learner in a formal environment to multiple types of learning (individual, group, and organizational) in both formal and informal environments (Hager 2011). Russ-Eft (2011:125) states “By connecting these theories, we can identify further practice and research implications.”

While pedagogical theories focus on the best way for students to learn, the associated teaching strategies target the characteristics of learners with limited experience and knowledge, usually children. Knowing that our target audience in corrections is composed

***“Learning is a complex activity and more than the sum of its parts.”***

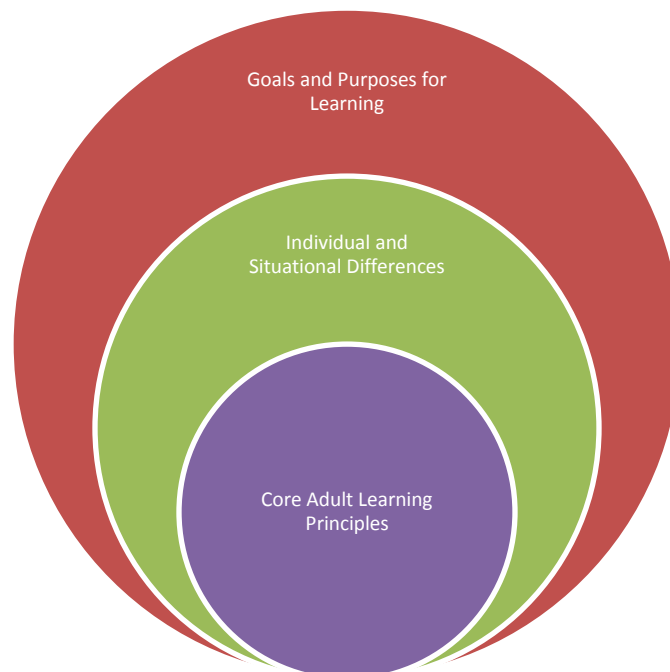
***Karen Vaughan  
New Zealand Council for Education Research***

exclusively of adult learners, it would follow that we should tailor our learning programs to meet the needs of adult learners. Who are these learners, how do they learn, and where do they learn? Vaughn (2008:19) states that “without an understanding of the learners themselves, workplace learning cannot be successful.”

“By 1940, most of the elements required for a comprehensive theory of adult learning had been discovered, but they had not yet been brought together into a unified framework; they remained as isolated insights, concepts, and principles.” (Knowles et al. 2011:43). Andragogy attempts to pull those concepts and principles together into a working model for adult learning.

The andragogy in practice model (Knowles, Holton, and Swanson 1998) offers a conceptual framework for andragogy across multiple domains of adult learning practice (Knowles et al. 2011:146). The framework takes into account learner differences as well as the differentiated goals of each learning event. At the core of this three-dimensional framework is the adult learner. The six core adult learning principles are listed below.

- ⊕ Adults need to know how the learning will be conducted, what will be learned, and why they need to learn something before learning it.
- ⊕ The self-concept of adults is heavily dependent upon a move toward self-direction. They are autonomous.
- ⊕ Prior experiences of the learner provide a rich resource for learning. Adults bring their own resources and mental models with them to learning events.
- ⊕ Adults typically become ready to learn when they experience a need to cope with a situation or perform a task.
- ⊕ Adults' orientation to learning is life-centered, problem-centered, and contextual.
- ⊕ The motivation for adult learners is internal.



Adapted from Figure 7-1 "Andragogy in practice model (from Knowles, Holton, & Swanson, 1998)" as published in *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development*

Surrounding the learner, the second dimension of the model is individual and situational differences.

- ⊕ Subject matter differences may call for different learning strategies.
- ⊕ Situational differences may call for different delivery strategies i.e. remote learners or groups.
- ⊕ Individual learner differences include level of experience, mental abilities, and learning style.

Surrounding the learner and the individual and situational differences, the third dimension of the model consists of the goals and purposes for learning. Goals for growth may be focused on the individual learner, on agency development, or on a societal need.

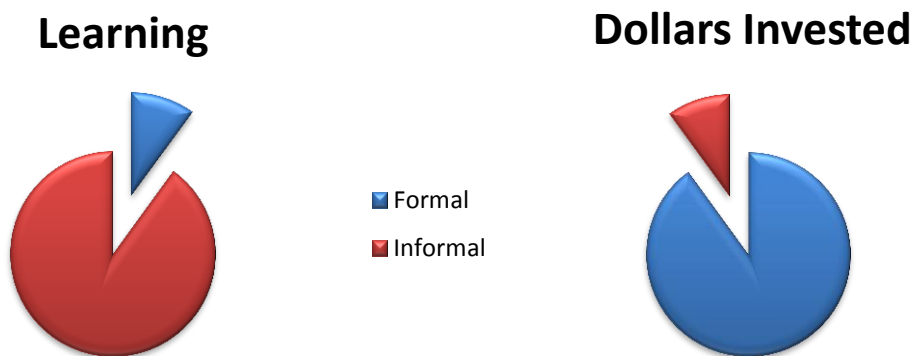
Taken by themselves, the six core principles offer an “effective approach to adult learning”. When coupled with the multi-dimensional framework, the model provides a solid foundation for planning adult learning across disciplines (Holton et al. 2001:120). Adult learning theory is the basis of NIC’s *Instructional Theory into Practice* (ITIP) model for designing learner-centered instruction.

Theorists disagree whether a learner’s preferred learning style is a critical factor in the learning process. There does, however, seem to be a general consensus that what *is* important is recognizing differences in learners. Blackwell and McCarthy (2007) hypothesize that the importance in understanding learning styles lies in the fact that different learning styles can be a healthy means to balance thinking between instructor and learner. Knowles et al. (2011:213-214) state that learning style instruments are “best used...to create awareness among learning leaders and learners that individuals have different preferences.” Clark (2010) offers research that shows it may be more important to pay attention to level of expertise than to learning styles. Russ-Eft (2011:127) states that “the theoretical framework implies that trainees may need information to be presented in multiple ways. It may be that one approach or another may prove more effective for certain types of learners, certain kinds of information, and certain kinds of situations.”

Holton et al. (2001:133) propose that “While there remains much uncertainty in the research, the key point is clear – individuals vary in their approaches, strategies, and preferences during learning activities. Few learning professionals would disagree. At one level, merely being sensitive to those differences should significantly improve learning.”

In addition to adult learner traits and characteristics, instructional strategies must incorporate the evidence on how the human brain and memory work. “Thirty years of research has focused on what the brain has to do with how a learner learns and how you can practically apply that understanding to improve the effectiveness of the learning experience. Understanding what is happening in the heads of learners is what is critical in helping them apply what they have learned...” (Herrmann-Nehdi 2008:214-215).

Learning occurs in many settings and for many different reasons. While we most typically picture formal, instructor-led learning when we discuss corrections training, “most actual learning takes place informally on-the-job, through coaching, mentoring, experience, and other sharing. This learning does not go through the training department, and it is not tracked by the organization’s learning management system...Interactions like water-cooler conversations, over-the-cubicle requests for assistance, and on-the-job coaching provide the majority of performance support” (Kelly 2012). Estimates about how much we learn informally range from 56% (Carliner 2012) to 90% (van Dam 2012). While the vast majority of learning actually takes place outside the classroom, the typical training budget in corrections is spent on classroom training and activities that support it (Lewis 2011).



## Learning Professionals

Our review of learning literature revealed that subject matter experts across the board agree that the abilities of the learning professional are of utmost importance in moving learning programs into the 21<sup>st</sup> Century. Allix (2011:144) advances that the workplace learning professional's role is one of "significance and consequence." Wick (2010) offers that we need a new paradigm about the scope of our responsibility and that we need to move beyond delivering programs to delivering results; to designing programs that are inclusive of all of the factors that influence outcomes. Vaughan (2008:3) concludes that the increased complexity in the relationships between knowledge, institutions, and people will require a learning stance from us.

*"A critical element of transforming a training department into an HPE [Human Performance Enhancement] department is building the competencies of training and development professionals so that they can assume more challenging roles."*

**William Rothwell**  
**Professor of Workforce Education and**  
**Development**  
**Pennsylvania State University**

McLagan (2008:129) notes that competency models provide important frameworks for selection, performance, and development decisions and actions in any organization. Rothwell (2005) proposes that competency models identifying the skills necessary for success should include analysis, audit, vision, observation, clarification, communication, design, construction,

implementation, and evaluation. Knowles et al. (2011:279-287) list the core competencies related to adult learning theory as the ability to:

- ⊕ describe the difference between a content plan and a process design;
- ⊕ design learning experiences for accomplishing a variety of purposes that take into account individual differences among learners;
- ⊕ describe the range of methods or formats for organizing learning experiences;
- ⊕ describe the range of techniques available for facilitating learning;
- ⊕ provide a rationale for selecting a particular method, technique, or material for achieving particular educational objectives;
- ⊕ evaluate various methods, techniques, and materials as to their effectiveness in achieving particular educational outcomes;



- ⊕ use a wide variety of presentation methods efficiently;
- ⊕ use a wide variety of experiential and simulation methods effectively, and
- ⊕ evaluate learning outcomes and processes and select or construct appropriate instruments and procedures for this purpose.

The Central Intelligence Agency stood out in our literature review (Bingham and Conner 2010; Broad and Newstrom 1992) as a public agency that has been successful in incorporating mobile and social learning into its learning program. One of the reasons for their success may be the implementation of a certification program for their ad hoc trainers and subject matter experts that includes workshops on fundamentals of instruction, facilitation skills, course design, training needs assessment and evaluation, assessing student learning, case method teaching, case research and case writing, designing course materials, and classroom management.

One competency that may be included on future models is the role of the learning professional as curator. In a message posted to the Learning Circuits Blog (2012), David Kelly explores the emerging role of the learning professional in the age of social learning.

With content growing at an exponential rate, our need to create will slowly diminish. In its place will be the growing need to filter on behalf of workers; to curate the sea of content that is available and being shared and bring the most relevant and valuable to the forefront of worker attention. Learning and performance professionals need to discover where the information is being shared in their organizations and tap into it. The sharing taking place could be identifying new performance support needs, or it could be sharing new solutions.

The American Society for Training and Development (ASTD) Competency Model (Appendix B) was originally published in 2004 and was revised in 2011 to reflect a focus on social learning. The model was built using a data-driven approach, drawing content from “past ASTD studies, more than 100 articles, competency research studies, and more than 100 subject matter experts” (ASTD 2004:1-2). The data was then rated by more than 2,000 practitioners for importance to their current jobs. Three knowledge and skill areas are included in the model including competencies (clusters of knowledge, skills, abilities, and behaviors necessary for job success), areas of professional expertise (specific knowledge required for success in specialty areas), and roles (duties within a position that require a combination of competencies).

## Learning Organizations

Correctional organizations face unique and complex challenges including increasingly limited resources, changes in the type and number of inmates, and loss of organizational knowledge and changes in staff characteristics as younger generations replace retiring staff. Senge et al. (2004:8) note that, “even as conditions in the world change dramatically, most businesses, governments, schools, and other large organizations continue to take the same kinds of institutional actions that they always have.”

According to Argyris and Schön (1978:2-3), single loop learning occurs when an organization responds to a challenge or problem without questioning the values, goals, plans, or rules that led to the challenge in the first place. “Single loop learning is like a thermostat that learns when it is too hot or too cold and turns the heat on or off.” The alternative

*“By valuing continuous improvement, a learning organization can define where it wants to go and systematically identify the steps to get there, using the principles and practices of continuous learning.”*

*Michael Austin  
Milton and Florence Krenz Mack Distinguished  
Professor of Nonprofit Management  
University of California, Berkeley*

response is double loop learning: “learning that occurs when error is detected and corrected in ways that involve the modification of an organization’s underlying norms, policies, and objectives.” Using the thermostat analogy, the thermostat would question what led to the rise or fall in temperature before taking action.

Senge suggests that there are five disciplines essential for an organization to grow into a learning organization. Those five disciplines are;

- 1) Systems thinking – understanding how the pieces of the organization inter-relate;
- 2) Personal mastery – not just doing things right, not just doing the right thing, but understanding what you’re doing and getting results;
- 3) Mental models – awareness of and understanding that people have mental maps, internal pictures and images, that shape thinking, action, and beliefs and that these mental models may need to be challenged;

- 4) Shared vision – when knowledge and learning are present throughout the organization, not just at the top, the middle, or with one group; and
- 5) Team learning – sharing knowledge for the betterment of the entire organization.

Garvin (2000) advances that in order for an organization to achieve the five disciplines, an organization must practice these five functions; 1) information gathering and problem solving, 2) experimentation, 3) learning from the past, 4) learning from promising practices, and 5) transferring knowledge.

Austin (2008:571) advances that agencies open to learning and developing themselves are more responsive to their service environment, and that “innovation can thrive in a culture of learning where processes are continually reviewed (i.e., what can we learn from this and what can we do better or differently?).” Quoting Schein, Austin (2008:573) puts forward that organizational learning does not happen until “leaders become learners themselves” and become models for others to follow. Along these same lines, Vaughan (2008:23) advances that the culture of a workplace and the way that learning is supported in a workplace will determine what can be learned and how it is learned.

By definition, an organization never crosses the finish line in its quest to become a learning organization. The organization can, however, display the characteristics indicative of a learning organization, one that provides continuous learning opportunities, uses learning to reach goals, links individual performance to organization performance, provides a safe environment for sharing and risk taking, embraces creative tension as a source of energy, and generates learning opportunities in anticipation of a different tomorrow.

## **Instructional Design**

In 1973, in response to the need to improve Army training, the U.S. Department of Defense commissioned the Center for Performance Technology at Florida State University to develop procedures for the development and delivery of training. These procedures evolved into a model called Interservice Procedures for Instructional Systems Design. The phases of the instructional design model included analysis, design, development, implementation, and control. The control phase was later renamed evaluation and gave rise to the well-known acronym ADDIE.

Instructional Design (ID) is a blueprint to be used as a guide when drafting instructional components and delivery methods. The process includes gathering data as to target audience, performance objectives, performance outcomes, and an evaluation plan. Sink (2008) advocates that design calls for an “eclectic approach” where the designer must select the best practices from multiple theories in order to create the desired results. During development, designers should ensure that the course follows adult learning theory, is learner-centered, and helps the learner reach the goal of training.

Van Dam (2012) reports that a meta-analysis of 355 studies revealed the most important factor in knowledge retention to be the quality of the learning design rather than the delivery method. Mager (2008) states that the development process of effective “learner-efficient instruction” will result in not only

*“Because learning is a natural human activity, some say that designing learning is natural, too. Good design is neither natural nor easy...A good designer is a multidisciplinary practitioner.”*

*Melinda Jackson  
Director of Instructional Design  
Enspire learning*

instructional materials for the trainer but also skill checks with which to measure competence and performance aids for the learner during the learning process as well as for on-the-job application. When done right, the design and delivery process will account for both retention and transfer upon return to work.

A meta-analysis of instructional design studies by Kenny et al. in 2005 revealed a definitive skill set for instructional designers. Those most applied include communication skills, knowledge of instructional design models, problem-solving skills, decision-making skills, and technology skills. Citing this meta-analysis, Jackson (2008:39) suggests that “the experienced ID practitioner brings the toolset and the proper skill set to designing the right experience for the right learners in the right context with the right content supported by the right motivational and engagement strategies to support the right learning outcomes.”

Of course, development of a course may not always be the answer. Mager (2008:176) points out that “one ought not be wedded to the development dance when simpler more direct avenues for facilitating desired performance are available. For example, interventions such as job aids, well-designed operations manuals...and simple permission to perform all can facilitate desired performance without resorting to formal training.”

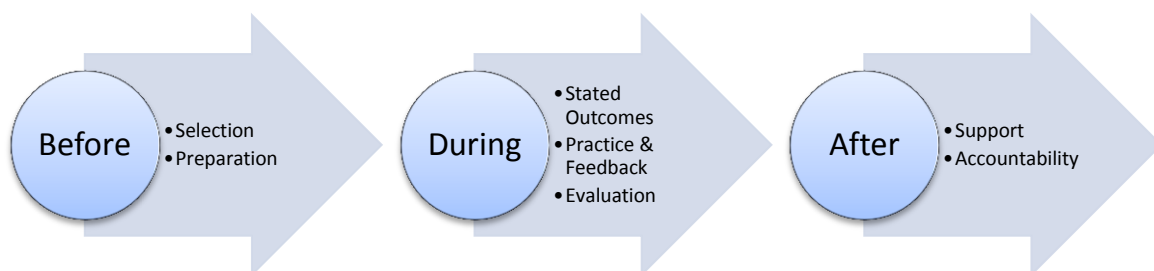
There are 21 design models listed on [www.instructionaldesign.org/models/index.html](http://www.instructionaldesign.org/models/index.html). Whatever model one uses, the key is fidelity to the model. Criteria for measurement should be developed during the design phase and conducting a transfer evaluation should be an essential activity of the evaluation phase.

## Program Design

Wick, Pollock and Jefferson (2010) postulate that in the end, agencies invest in learning for one reason: performance. Enhanced performance of the individual leads to enhanced performance of the organization whether it's in more efficient task completion or better retention. The effectiveness of a learning initiative should be gauged by its impact on the agency. To this end, learning programs should incorporate business outcomes into their design.

Business outcomes specify what learners will do on the job and how that behavior will benefit the agency. Traditional learning objectives are generally measured at the end of an event and focus on abilities. Business outcomes are generally measured on the job and focus on behavior and performance. Examples of business outcomes (versus learning objectives) are increasing productivity, reducing the number of injuries on the job, and higher retention rates.

Wick et al. (2010) state that while course design is vital, what comes before and after the learning event is as important as the event itself. They go on to recommend a before, during, and after paradigm in order to focus on learning as an experience rather than an event. The process includes four phases of learning: preparation, learning, transfer, and achievement.



Preparation should include the selection of the right people for the right course, meaningful preparatory work, pre-program meeting(s) between participants and their supervisors, and the provision of a program overview to the participant's

*"Ineffective training is a huge waste of organizational time and resources."*

*Melinda Jackson  
Director of Instructional Design  
Enspire learning*

supervisor. In addition to the actual course, the learning phase should include the use of preparatory learning, links to expected outcomes and relevance, practice with supervision and feedback, and a process check (end of course evaluation). The transfer phase includes performance support resources, supervisor involvement, and accountability. The achievement phase should include recognition and assessment.

## Methods/Modality

The key findings from a 2010 meta-analysis and review of online learning by the U.S. Department of Education indicated that learning outcomes from online students modestly exceeded those of students receiving face-to-face instruction. Further findings indicated that blended learning was more effective than purely online instruction and instructor-directed or collaborative study provided better outcomes than independent study. The study results also indicate that online learning appears to be effective across content and learner types.

After reviewing 30 years of literature on virtual learning, Brookshire, Lybarger, and Keane (2010) offer the following conclusions: there are multiple benefits to the employee including flexibility and control, the ability to take extra time as necessary, and a safe learning environment. Benefits to the employer include cost effectiveness, ability to reach larger numbers of staff, consistency in content, detailed tracking, and attractiveness to employees. Benefits that apply to both learner and agency include current and relevant content, shorter delivery times and less interference with time on the job. They further conclude that research has identified that the blending of learning- a combination of virtual and face-to-face training – enhances the probability of success.

It is important to note that as with other delivery modalities, design is essential to meet the needs of multiple learning styles, assessment is vital, and learner characteristics and workplace environment will affect outcomes.

## Transfer

Experts generally agree that typical levels of transfer of learning from classroom to the job range from 10 to 30 percent. In a review of the available research, Broad and Phillips (1997) found that as little as 15 percent of content is still being applied by learners a year after the learning event. What contributes to such low application? Broad and Phillips (1997:8) state that beginning in 1957 with Mosel, multiple studies (Rouiller and Goldstein 1993, Boothman and Feldstein 1989-1993, Brinkerhoff and Montesino 1995, Xiao 1996) have reinforced the concept that “it is the top management, through the organizational climate or reward structure it creates, that is really doing the training, regardless of what the training staff does. The training administered by the training staff ‘sticks’ only if it coincides with what top management is teaching every day.”

Broad and Newstrom (1992) identified nine barriers to transfer as perceived by trainees. Of the nine, most were related to organizational leadership and culture. The barriers included interference in work environment, lack of enforcement on the job, non-supportive organizational structure, perceived impracticality of the training, perceived irrelevance of the training, discomfort with change, lack of trainer follow-up after training, poor training design and/or delivery, and peer pressure against change.

***“Trainers cannot leave to chance the transfer to the workplace of their students’ skills and knowledge; they must build strategies aimed at encouraging transfer into their course designs.”***

***Linda Smith Rutledge  
Central Intelligence Agency***

Wick et al. (2010) offer that failure of transfer is attributable to all parties involved. Designers fail to incorporate assessment and tracking mechanisms. Management sets unclear or conflicting priorities and fails to hold staff accountable to application of learning. Learning participants have weak or no

goals, are not motivated, and have low expectations. Supervisors are not engaged, don’t provide the opportunity for employees to apply new skills or knowledge or fail to provide feedback when new skills are applied. Additionally, peer pressure, lack of support from the training department, lack of follow up, and lack of action plans contribute to failure to transfer. According to Wick, learning professionals and supervisory staff share the burden for the success or failure of learning programs. Even if the training is a success, if there is no transfer, the training has failed.

Broad (1982) identified five critical dimensions of management support including involvement of upper management in program design and transfer expectations, pre-training preparation, support during training, linkage of training content to job performance, and follow-up support in relationship to investment in the training.

After a thorough review of the available literature and research, Russ-Eft (2002) developed a taxonomy for workplace learning and transfer. This typology identifies pre-training elements, training design elements, and post-training elements as well as work environment elements that correlate to trainee efficacy. She states that situational elements including supervisor support, supervisor sanction, workload, opportunity to use new skills and knowledge, and peer support affect workplace learning and transfer. Additionally, training design elements such as practice, overlearning, and goal setting (among others) have been shown to increase workplace transfer of acquired skills and knowledge and to improve performance.

Wick et al. (2010) propose that the real work begins when the class ends. And while there is no magic bullet to solve the transfer issue, there are strategies and tactics that can enhance learning transfer. It is also important to remember that without transfer, training itself actually increases cost and lowers productivity.

## Assessment

Often times, our measures of success are quantitative (how many people trained, how many hours, how many course offerings) or we rely upon participant feedback to gauge our effectiveness.

Rothwell (2005:273) points out that “evaluating training by measuring

participant reactions is easy, fast, and inexpensive. Unfortunately...the results focus on participant likes and dislikes rather than on the training’s job-related or organizationally related impact.

Participants may ‘like’ useless but entertaining training and ‘dislike’ boring but useful training.”

***“Results are the last thing to evaluate, but the first thing to consider when planning a training program.”***

***Donald Kirkpatrick  
Professor Emeritus  
University of Wisconsin***



Relying on participant feedback is a limited approach but not one that needs to be abandoned altogether: happy learners will share positive experiences back on the job. But how can we move from measuring activity levels to measuring results. How can we determine the impact of our learning programs on organizational objectives such as increased employee retention, reduced offender recidivism, critical incidences and use of force?

Julia Aucoin (2012) advances that evaluation is a process, derived from a model, and designed by educators such as Donald Kirkpatrick, Roberta Straessle Abruzzesse, and Daniel Shufflebeam. The process should involve content evaluation (testing and demonstration), outcome evaluation (changes in behavior), and impact evaluation (organizational improvement). Strategies for addressing each element of the evaluation process should be identified during the planning and design phase of learning.

Many agencies are familiar with and may be using the Kirkpatrick Model for Measuring Effectiveness. The model consists of four measurements, commonly referred to as Level 1, Level 2, Level 3, and Level 4. Kirkpatrick himself (2008:486) refers to the four measurements as reaction (a measure of satisfaction of the participants who attended the program); learning (the extent to which participants increased their knowledge, learned or improved present skills, or changed their attitudes); behavior (the extent to which participants applied what they learned when they returned to their jobs); and results (the improvement of morale, reduction in turnover, and any other benefits that came from attending the program).

Most agencies find that measuring at the higher levels (behavior and results) is difficult, costly, and time consuming. Wick et al. (2010:28) remind us of the importance of making the effort: “if the positive effects of learning and development cannot be measured, then presumably neither can the negative effects of reducing or eliminating it. Failure to routinely document the...value of training and development undoubtedly contributes to the practice of making training budgets among the first to be cut in periods of belt tightening.”

## How Can We Make and Promote Change?

As an industry, our challenge is to synthesize and integrate a vast knowledge base about human physiology (the brain), psychology (the mind), and philosophy (the heart) into effective learning and performance practices. We hope by now that you are pondering the possibilities for your own agencies and formulating thoughts about where to begin.

Change is not easy to make and very difficult to sustain; however, we are confident that with concerted and continued effort we can transform from an agency that trains staff to one that enhances human performance. To quote Peter Drucker, “The best way to predict the future is to create it.” By developing this vision for our future, we have begun to create it. Assessing our agency leadership and culture will be imperative for success.

*“If change is to be successful, it must in turn be aligned with the organization’s mission, strategy, and goals and carried out with due attention to comparisons between desired and actual performance.”*

*William Rothwell  
Professor of Workforce Education and  
Development  
Pennsylvania State University*

In his book *Beyond Training and Development*, William Rothwell (2005:61) articulated the following transformation steps:

- ⊕ Make the case for change with trainers and stakeholders.
- ⊕ Build awareness of the possibilities.
- ⊕ Assess and build support for change.
- ⊕ Create a flexible roadmap for change.
- ⊕ Build competencies keyed to the change effort.
- ⊕ Communicate the need for change.
- ⊕ Train people to think like HPE professionals.

We consider this paper the first step in our transformation. Our next steps include strategic planning sessions, ongoing professional development of staff to build competency and implementation of key initiatives beginning fiscal year 2013 including the following:

- ✦ The update and revision of the trainer development series including “Training Design and Development,” “Foundation Skills for Trainers,” “Building Agency Success: Developing an Effective FTO/OJT Training Program,” and “Training for Training Directors.” Lesson plans will be examined to ensure that the instructional design and content are evidence-based.
- ✦ Development of a competency model for correctional learning leaders including administrators, facilitators, adjunct instructors, and subject matter experts. The model will include profiles, critical competencies, the skills required to use and develop the competencies, and the behaviors that reflect the core competencies.
- ✦ Development of a series of “How To” lesson plans for each of the areas identified as critical to success including research and benchmarking, instructional design, the incorporation of technology into learning programs, and assessment.

Additionally, we will continue to:

- ✦ recruit and develop regional field coordinators and technical resource providers based on demonstrated competency and professionalism;
- ✦ bring industry thought leaders to your desktops via webinar through our Learning Administrators Virtual Community;
- ✦ explore emerging technology, theory, and practices including gamification, Web 3.0, and mobile learning;
- ✦ update our E-course catalog through the NIC Learning Center, making those courses available to the field for their own learning management systems when feasible; and
- ✦ collect and disseminate current, relevant content regarding learning through our Library and Information Center.

## Want More?

This paper has focused on the “What.” The “How” is a vast body of knowledge available in multiple formats and we encourage you to begin exploration today. We invite you to begin with the resources used to develop this paper. Additionally, the following resources are available to you:

✦ **The Workplace Learning Annotated Bibliography**

Over seventy annotated citations are grouped according to what workplace learning is, its importance, how to implement it, and how workplace learning has been implemented. Available at <http://static.nicic.gov/Library/024728.pdf>

✦ **Library and Information Help Desk**

The Robert J. Kutak Memorial Library is a specialized collection of over 18,000 corrections-related resources. The focus of the collection is on unpublished, operationally-oriented resources developed by correctional agencies for use by practitioners in the field. The collection includes items such as policies, procedural manuals, reports, newsletters, and training materials. The library also collects published materials on correctional topics and serves as a distribution center and archive for NIC publications. Almost one-third of the library's materials are available through our online library. The library also provides research support to corrections practitioners through the Online Help Desk. For access to the full collection and live onsite Information Experts, contact the Information Help Desk at <http://info.nicic.gov/Custom/Ask.aspx#>

✦ **Online Community**

NIC manages and supports a community for corrections professionals to share information, ask questions, and work together online. Public and private forums facilitate discussion on correctional topics. NIC also maintains blogs which are used to share information about NIC activities, announce opportunities, and solicit feedback from the field. Membership is free. Available at <http://community.nicic.gov/user/CreateUser.aspx>

✦ **NIC Learning Center**

NIC currently offers classroom training, Virtual Instructor Led Training (VILT), and self-paced e-courses that you can access online any time, any place. Access is available to corrections learning professionals. Available at <http://nic.learn.com>

✦ **NIC Frontline Learning Center**

NIC is offering the [Frontline Learning Center](#) to correctional officers, detention officers, probation and parole officers, reentry specialists, correctional health professionals, and other correctional line staff. There are currently over 70 e-courses available in corrections topics, communication, ethics, team skills, and leadership.

## References

- Allix, Nicholas M. 2011. "Knowledge and Workplace Learning." In Margaret Malloch, Len Cairns, Karen Evans, and Bridget N. O'Conner (eds) *The SAGE Handbook of Workplace Learning*. London: SAGE Publications, pp. 132-148.
- Argyris, Chris and Donald A. Schön. 1978. *Organizational Learning: A Theory of Action Perspective*. Reading, MA: Addison Wesley.
- ASTD Certification Institute. 2011. *Social Learning Update to the CPLP Candidate Bulletin*. Retrieved from <http://www.astd.org/Certification/For-Candidates/~media/Files/Certification/Competency%20Model/SocialLearning1.ashx>
- ASTD. 2004. *ASTD Competency Study: Mapping the Future*. Alexandria, VA: ASTD Press.
- Aucoin, Julia. 2012. Evaluation Flipping the Hierarchy. *ASTD-Links, August 2012 Issue 2*. Retrieved from [http://www.astd.org/Publications/Newsletters/ASTD-Links/ASTD-Links-Articles/2012/08/Evaluation-Flipping-the-Hierarchy.aspx?CampaignCode=ar-2012.08.17-links-aug2&email=a4hall%40bop.gov&utm\\_medium=email&utm\\_source=bronto&utm\\_campaign=ar-2012.08.17-links-aug2](http://www.astd.org/Publications/Newsletters/ASTD-Links/ASTD-Links-Articles/2012/08/Evaluation-Flipping-the-Hierarchy.aspx?CampaignCode=ar-2012.08.17-links-aug2&email=a4hall%40bop.gov&utm_medium=email&utm_source=bronto&utm_campaign=ar-2012.08.17-links-aug2)
- Austin, Michael J. 2008. "Strategies for Transforming Human Service Organizations into Learning Organizations: Knowledge Management and Transfer of Learning." *Journal of Evidence-Based Social Work* 5(3-4): 569-596
- Baldwin, T.T. and K.J. Ford. 1988. "Transfer of Training: A Review and Directions for Future Research." *Personnel Psychology*. 41: 63-105.
- Best Practices (n.d.). Retrieved August 27, 2012, from Wikipedia: [http://en.wikipedia.org/wiki/Best\\_practice](http://en.wikipedia.org/wiki/Best_practice)
- Biech, Elaine, ed. 2008. *ASTD Handbook for Workplace Learning Professionals*. Alexandria, VA: ASTD Press
- Biech, Elaine. 2005. *Training for Dummies*. Indianapolis, IN: Wiley Publishing.
- Bingham, Tony and Marcia Conner. 2010. *The New Social Learning: A Guide to Transforming Organizations Through Social Media*. Alexandria, VA: ASTD Press.
- Blackwell, Jeanine O'Neill and Bernice McCarthy. 2007. *Hold On, You Lost Me! Use Learning Styles to Create Training that Sticks*. Alexandria, VA: ASTD Press.

Broad, Mary L. and J.W. Newstrom. 1992. *Transfer of Training: Action-Packed Strategies to Ensure High Pay-Off from Training Investments*. Reading, MA: Addison-Wesley.

Broad, Mary L. 1982. "Management Actions to Support Transfer of Training." *Training and Development Journal*. 36(5):124-130.

Broad, Mary L. and Jack J. Phillips (eds.). 1997. *In Action: Transferring Learning to the Workplace*. Alexandria, VA: ASTD Press.

Brookshire, Robert G., Kara M. Lybarger, and Lynn B. Keane. 2011. "Virtual Workplace Learning: Promises Met?" In Margaret Malloch, Len Cairns, Karen Evans, and Bridget N. O'Connor (eds) *The SAGE Handbook of Workplace Learning*. London: SAGE Publications, pp. 331-340.

Burrus, Daniel. "20/20 Vision: A Past So Innovative It's Ahead of Its Time." *Wired*, July 2012: 89

Carliner, Saul. 2012. "Informal Learning: The Basics" ASTD Webinar. July 17, 2012

Clark, Ruth Colvin. (2012, July 16). Blended Learning is Better Than Instructor-Led or Online Learning Alone. Message posted to <http://www.astd.org/Publications/Blogs/L-and-D-Blog/2012/07/Blended-Learning-Is-Better-Than-Instructor-Led-or-Online-Learning-Alone.aspx>

Clark, Ruth Colvin. 2010. *Evidence-Based Training Methods*. Alexandria, VA: ASTD Press.

Downes, Stephen. (2005, October 15). E-Learning 2.0. Message posted to <http://www.downes.ca/post/31741>

Duke University. "What is the difference between assessment and evaluation?" <http://web.duke.edu/arc/documents/The%20difference%20between%20assessment%20and%20evaluation.pdf> accessed July 24, 2012.

Garvin, David A. 2000. *Learning in Action: A Guide to Putting the Learning Organization to Work*. Boston, MA: Harvard Business School Press.

Hager, Paul. 2011. "Theories of Workplace Learning." In Margaret Malloch, Len Cairns, Karen Evans, and Bridget N. O'Conner (eds) *The SAGE Handbook of Workplace Learning*. London: SAGE Publications, pp. 17-31.

Hart, Jane. 2012. Internet Time Alliance white paper "Learning in the Social Workplace." Retrieved from <http://internettimealliance.com/wp/wp-content/uploads/2011/11/liswpwp.pdf>

Herrmann-Nehdi, Ann. 2008. "The Learner: What We Need to Know." In Elaine Biech (ed) *ASTD Handbook for Workplace Learning Professionals*. Alexandria, VA: ASTD Press, pp. 213-231.

Hofmann, Jennifer and Nanette Miner. 2008. "Real Blended Learning Stands Up: Moving beyond mixed offerings to build the best blended learning." *T+D Magazine* (September):28-31.

Holton, E.F., R.A. Swanson and S. Naquin. 2001. "Andragogy in Practice: Clarifying the Andragogical Model of Adult Learning." *Performance Improvement Quarterly* 14(1):118-143.

[http://richardswanson.com/publications/Swanson\(2001\)Androgogyinpr.pdf](http://richardswanson.com/publications/Swanson(2001)Androgogyinpr.pdf), accessed August 29, 2012

Israelite, Larry. 2006. *Lies About Learning: Leading Executives Separate Truth from Fiction In a \$100 Billion Industry*. Alexandria, VA: ASTD Press.

Jackson, Melinda. 2006. "Lies About the Design of Learning." In Larry Israelite (ed) *Lies About Learning: Leading Executives Separate Truth from Fiction In a \$100 Billion Industry*. Alexandria, VA: ASTD Press, pp. 27-42.

Kelly, David. 2012, March 20. Curation: A Core Competency for Learning Professionals. Message posted to <http://learningcircuits.blogspot.com/2012/03/curation-core-competency-for-learning.html>

Kirkpatrick, Donald L. 2008. "Evaluating Training Programs: Luminary Perspective." In Elaine Biech (ed) *ASTD Handbook for Workplace Learning Professionals*. Alexandria, VA: ASTD Press, pp. 485-491.

Knowles, Malcolm S., Elwood F. Holton III, and Richard A. Swanson. 2011. *The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development Seventh Edition*. Burlington, MA: Elsevier.

Kouzes, Jim and Barry Posner. 1995. *The Leadership Challenge: How to Keep Getting Extraordinary Things Done in Organizations 2<sup>nd</sup> Edition*. San Francisco: Jossey-Bass.

Lewis, Nancy J. 2011. "Soapbox: Informal Learning: Style vs. Substance". *Training* 48(1):18-20. Retrieved from <http://www.trainingmag.com/article/soapbox-informal-learning-style-vs-substance>

Mager, Robert F. 2008. "Designing and Developing Effective Learning: Luminary Perspective." In Elaine Biech (ed) *ASTD Handbook for Workplace Learning Professionals*. Alexandria, VA: ASTD Press, pp. 173-177.

Manning, George and Kent Curtis. 2009. *The Art of Leadership 3<sup>rd</sup> Edition*. New York: McGraw Hill.

Marsick, Victoria, Karen Watkins, and Bridget O'Connor. 2011. "Researching Workplace Learning in the United States." In Margaret Malloch, Len Cairns, Karen Evans, and Bridget N. O'Connor (eds) *The SAGE Handbook of Workplace Learning*. London: SAGE Publications, pp. 120-131.

McLagan, Patricia A. 2008. "Competencies and the Changing World of Work." In Elaine Biech (ed) *ASTD Handbook for Workplace Learning Professionals*. Alexandria, VA: ASTD Press, pp. 127-146.

McLagan, Patricia. 1989. *The Models*, vol. 3 in *Models for HRD Practice*. Alexandria, VA: ASTD Press.

Ober, Steven P. 2006. "Lies About Learning Organizations." In Larry Israelite (ed) *Lies About Learning: Leading Executives Separate Truth from Fiction In a \$100 Billion Industry*. Alexandria, VA. ASTD Press, pp. 177-188.

Popul Vuh - Sacred Book of the Mayans. Quoted in Peter Senge, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers *Presence: Human Purpose and the Field of the Future*. Cambridge, MA: The Society for Organizational Learning, Inc., 2004. 78.

Pretrial Justice Institute. "Panel -- Evidence-Based Reform." In *Symposium on Pretrial Justice: Summary Report of Proceedings*, 22. Washington, DC: Bureau of Justice Assistance, 2011. Retrieved from <http://pretrial.org/NSPJ%20Report%202011.pdf>.

Rothwell, William, Ethan Sanders, and Jeffrey Soper. 1999. *ASTD Models for Workplace Learning and Performance: Roles, Competencies, and Outputs*. Alexandria, VA: ASTD Press.

Rothwell, William. 2005. *Beyond Training and Development, 2<sup>nd</sup> Edition*. New York: American Management Association.

Russ-Eft, Darlene. 2002. "A Typology of Training Design and Work Environment Factors Affecting Workplace Learning and Transfer." *Human Resource Development Review* 1(March): 45-65. [http://www.corwin.com/upm-data/2885\\_3HRDR02.pdf#page=46](http://www.corwin.com/upm-data/2885_3HRDR02.pdf#page=46), accessed July 24, 2012.

Russ-Eft, Darlene. 2011. "Towards A Meta-Theory of Learning and Performance." In Margaret Malloch, Len Cairns, Karen Evans, and Bridget N. O'Conner (eds) *The SAGE Handbook of Workplace Learning*. London: SAGE Publications, pp. 120-131.

Schugurensky, Daniel. 2000. *The Forms of Informal Learning: Towards a Conceptualization of the Field* (WALL Working Paper No. 19, 2000). Retrieved from <https://tspace.library.utoronto.ca/bitstream/1807/2733/2/19formsofinformal.pdf>

Senge, Peter, C. Otto Scharmer, Joseph Jaworski, and Betty Sue Flowers. 2004. *Presence: Human Purpose and the Field of the Future*. Cambridge, MA: The Society for Organizational Learning, Inc.

Sfard, Anna. 1998. "On Two Metaphors for Learning and the Dangers of Choosing Just One." *Educational Researcher* 27(2): 4-13 Retrieved from <https://www.msu.edu/~sfard/two%20metaphors.pdf>



Sink, Darryl L. 2008. "Instructional Design Models and Learning Theories." In Elaine Biech (ed) *ASTD Handbook for Workplace Learning Professionals*. Alexandria, VA: ASTD Press, pp. 195-212.

Stone, David E., "Lies About Research." In Larry Israelite (ed) *Lies About Learning: Leading Executives Separate Truth from Fiction In a \$100 Billion Industry*. Alexandria, VA: ASTD Press, pp. 189-204.

U.S. Department of Education, Office of Planning, Evaluation, and Policy Development. 2010. *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. Retrieved from <http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

Vaughan, Karen. 2008. *Workplace Learning: A Literature Review*. Retrieved from <http://akoaootearoa.ac.nz/download/ng/file/group-189/n1575-workplace-learning-a-literature-review.pdf>

Van Dam, Nick. 2012. "Designing Learning for a 21<sup>st</sup> Century Workforce." *T+D Magazine* (April): 49-53

Walden, Patrick R., Valerie C. Bryan, and Sunil Ramlall. 2011. "Informal learning in the workplace: a comparison of two models." *International Journal of Human Resources Development & Management* 11(1): 1-15.

Wenger, E., R. McDermott, and W.M. Snyder. 2002. *Cultivating Communities of Practice*. Boston, MA: Harvard Business School Press.

Wick, Calhoun, Roy Pollock, and Andrew Jefferson. 2010. *The Six Disciplines of Breakthrough Learning: How to Turn Training and Development into Business Result*

## Appendix A – Theoretical Models and Implications for Learning Programs

### Behaviorism

- learner is passive recipient
- break information down into small steps
- frequent practice and reinforcement

### Cognitive Theory

- learner is active processor
- embed transfer cues in content
- provide a variety of examples

### Schema Theory

- learner's background knowledge influences learning
- active, involved learners critical to success

### Social Learning

- model behavior
- change in behavior is not necessarily accompanied by change in knowledge or attitude

### Andragogy

- instruction should match learner needs
- delivery should include individual tasks, group work, critical reflection

### Social Perspective Theories

- environment shapes learning
- learners need opportunity to interact with peers and those more experienced and/or skilled

### Connectionist Theories

- Knowledge should be chunked to reduce cognitive load

### Situated Cognition

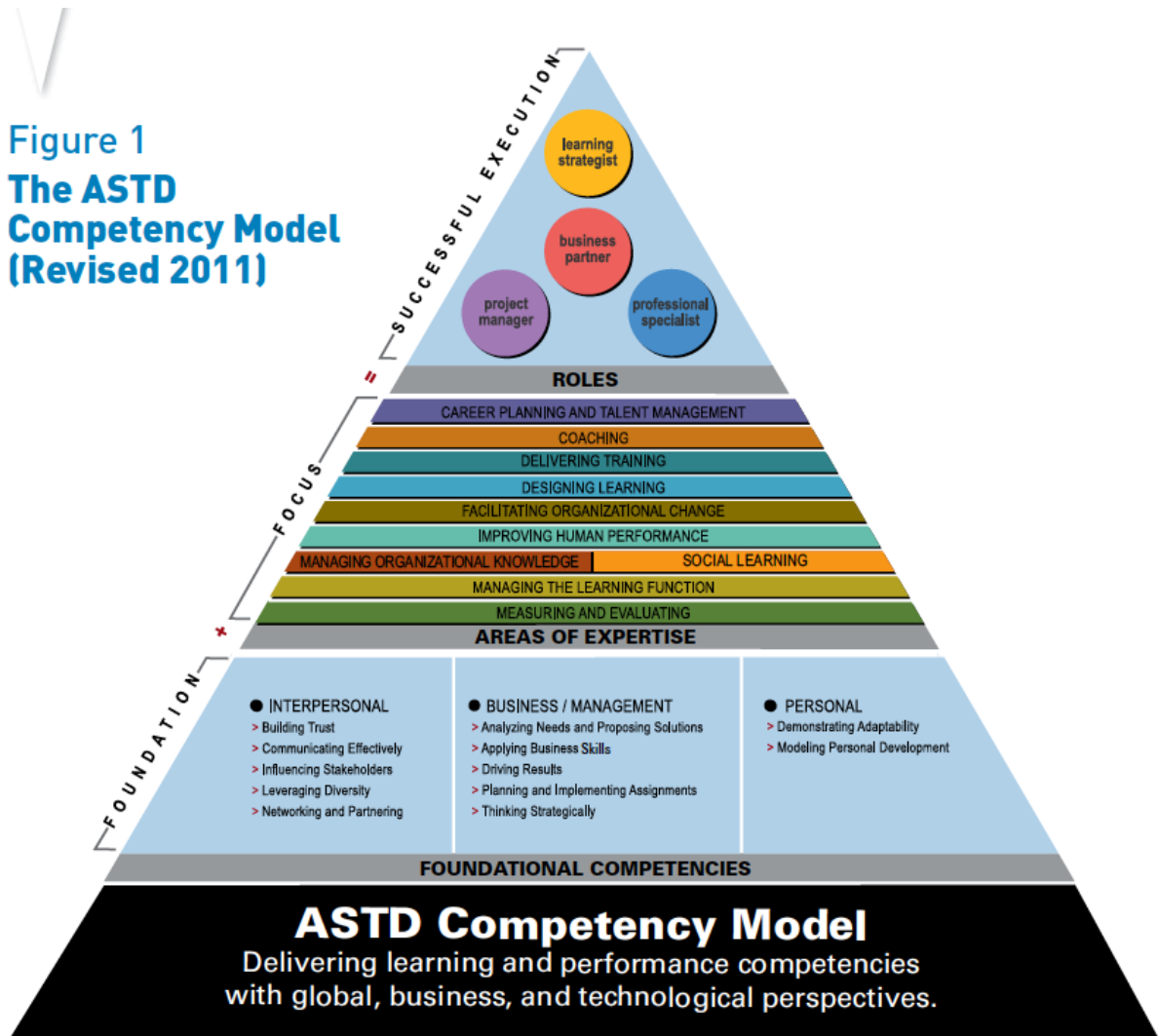
- use problem solving activities to facilitate mental models
- utilize realistic scenarios and group problem solving
- support for learners via coaching

### Organizational Learning Theory

- Larger groups can learn and solve problems as a unit

Adapted from Table 9.1 “Training implications from specific learning theories” as published in *The SAGE Handbook of Workplace Learning* Chapter 9 “Towards A Meta-Theory of Learning and Performance” pp. 124-125

Appendix B – ASTD Competency Model\*



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\*Image used with permission from ASTD.

## Appendix C – Glossary of Terms

**Adult Learning:** “A term that encompasses the collective theories and principles of how adults learn and acquire knowledge.” (Biech 2008:862)

**Andragogy:** “The adult learning theory popularized by Malcolm Knowles...based on five key principles that influence how adults learn: self-concept, prior experience, readiness to learn, orientation to learning, and motivation to learn.” (Biech 2008:862) A sixth principle, the adult learner’s need to know, was added in more recent years (Knowles et al. 2011)

**Assessment:** “focuses on learning, teaching, and outcomes...provides information for improving learning and teaching; process oriented.” (Duke University 2012); “The process used to systematically appraise a learner’s skill or knowledge level.” (Biech 2008:863)

**Benchmarking:** “[A] careful search for excellence – taking the absolute best as a standard and trying to surpass that standard.” (Manning and Curtis 2009:396)

**Best practices:** “method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark.” (Wikipedia)

**Blended learning:** “using the best delivery methodologies available for a specific objective, including online, classroom-based instruction, electronic performance support, paper-based, and formalized or informal on-the-job solutions.” (Hofmann and Miner 2008:28)

**Breakthrough learning:** a sudden advance in knowledge or comprehension.

**Community of Practice:** “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis.” (Wenger, McDermott, and Snyder 2002:4)

**Competency:** “Observable behavior that is based on specific knowledge, skills, and attitudes that relate to performance.” (Biech 2008:866)

**Double-Loop Learning:** “learning that occurs when error is detected and corrected in ways that involve the modification of an organization’s underlying norms, policies, and objectives.” (Argyris and Schön 1978:2-3)

**E-Learning:** “Term used to describe a structured learning environment in which the training or instruction is delivered electronically.” (ASTD 2011:4)

**Evaluation:** “focuses on grades and may reflect classroom components other than course content and mastery level; product oriented.” (Duke University 2012): “A multi-level, systematic method used for gathering information about the effectiveness and impact of training programs.” (Biech 2008:869)

**Evidence-based practices:** “a process for making decisions...the intentional and unbiased use of the best evidence available to make policy- and individual-level decisions...a process to make decisions rooted in evidence.” (Pretrial Justice Institute 2011:22)

**Formal learning:** “learning in which both the learning goals and learning methods are chosen by an outside person or entity.” (Walden, Bryan, and Ramlall 2011:3)

**Human performance enhancement (HPE):** “the field focused on systematically and holistically improving present and future work results achieved by people in organizational settings.” (Rothwell 2005: 36)

**Human resources development (HRD):** “the integrated use of training use of training and development, organization development, and career development to improve individual, group, and organizational effectiveness.” (McLagan 1989:77)

**Incidental Learning:** informal learning accomplished without intention by the learner even though the learner is aware of the learning situation. (Schugurensky 2000)

**Informal learning:** “learning in which the learner individually chooses both the learning goals and the learning methods.” (Walden, Bryan, and Ramlall 2011:3)

**KSA:** “Knowledge (cognitive), skills (psychomotor), and attitudes (affective) are the three objective domains of learning defined by Benjamin Bloom’s taxonomy in the 1950s.” (Biech 2008:874)

**L&D:** Learning and Development

**Leadership:** “the art of mobilizing others to want to struggle for shared aspirations.” (Kouzes and Posner 1995:30)

**Learning:** “a process that involves the perceiving and processing of information; taking in information, reflecting on that information, and acting on those judgments.” (McCarthy and Blackwell 2007:vii)

**Learning organization:** an organization “skilled at creating, acquiring, interpreting, transferring, and retaining knowledge, and at purposefully modifying its behavior to reflect new knowledge and insights.” (Garvin 2000:78)

**Learning style:** “Individual differences regarding how learners benefit from specific learning environments. Some of the more common learning styles include visual, auditory, and kinesthetic learners, they Myer’s Briggs Inventory, and Kolb learning styles.” (Clark 2010:256)

**Meta-Analysis:** statistical analysis of a collection of studies.

**Organizational Learning:** “learning whereby the entire organization is the unit of change. Therefore, ...about increasing the entire organization’s capacity to fulfill its purpose more effectively.” (Ober 2006:186-187)

**Pedagogy:** “The function or work of learning where the focus is on what the instructor does as opposed to what the participants do; usually refers to teaching children.” (Biech 2008:878)

**Performance Support Activities:** “includes job aids, supporting employee-generated content, and sharing useful external resources.” (Hart 2012:7)

**Performance Support Services:** “focus on providing access to and supporting use of a range of resources (content and people) for performance improvement.” (Hart 2012:7)

**Self-directed Learning:** informal learning that is both intentional and accomplished by an aware learner. (Schugurensky 2000)

**Single-Loop Learning:** “When the error detected and corrected permits the organization to carry on its present policies or achieve its present objectives.” (Argyris and Schön 1978:2-3)

**Social Learning:** “Learning with and from others.” (ASTD 2011:3)

**Social Media:** “A set of Internet-based technologies designed to be used by three or more people.” (ASTD 2011:3)

**Tacit Learning (Socialization):** informal learning that takes place even though the learner is both unintentional and is unaware of the learning situation. (Schugurensky 2000)

**Training:** “a process designed to assist an individual to learn new skills, knowledge, or attitudes.” (Biech 2005:8)

**Transfer of learning:** “The effective and continuing application by learners – to their performance of jobs or other individual, organizational, or community responsibilities – of knowledge and skills gained in learning activities.” (Broad and Phillips 1997:2)

**Virtual Learning:** “learning that is delivered through information technology and that uses this technology to permit interaction among...instructors and learners.” (Brookshire, Lybarger, and Keane 2011:332)

**Web 2.0:** the shift in the Web from a “medium in which information was transmitted and consumed, into being a platform, in which content was created, shared, remixed, repurposed, and passed along.” (Downes 2005)

**Workplace Learning and Performance (WLP):** “the integrated use of learning and other interventions for the purpose of improving individual and organizational performance.” (Rothwell, Sanders, and Soper 1999)