

The Psychology of Training, Development, and Performance Improvement

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Introduction

It is well established that the management and development of human resources is critical to the well-being and effectiveness of organizations. In their recent monograph, Salas, Tannenbaum, Kraiger, and Smith-Jentsch (2012) concluded: “Continuous learning and skill development is now a way of life in modern organizations. To remain competitive, organizations must ensure their employees continually learn and develop. Training and development activities allow organizations to adapt, compete, excel, innovate, produce, be safe, improve service and reach goals” (p. 1). While the emphasis of the Salas et al. chapter is on training and development, training is but one of many methods by which organizations shape the knowledge, skills, and competencies of its workforce. In this volume, we focus on training and instruction, personal and professional development, and appraisal and feedback.

In concept and in practice, distinctions among training, development, and appraisal are at times artificial if not distracting. When a manager or supervisor appraises the performance of a subordinate and gives feedback, the purpose of that action is (often) to stimulate if not guide the development of the subordinate’s skills and competencies. When organizations establish formal development programs for members (e.g., leader self-development activities), formal and informal training are also critical components. Finally, training at its best is a multifaceted approach to stimulating change and can incorporate both personal development and assessment and feedback of trainees.

The effective development of human resources is one of the best ways that organizations can differentiate themselves in the marketplace (Huselid & Becker, 2011). This point is made by Boudreau and Ramstad in a 2005 paper. They argued that organizations are increasingly unable to differentiate themselves by access to capital, better product design, or unique markets. All organizations now compete in relatively the same marketplaces, with similar products, and with similar access to financing. Thus, it is the extent to

which organizations can locate, procure, train, develop, and retain human capital that best enables them to compete.

Research in strategic human resource (HR) management typically finds that it is not isolated HR practices that lead to greater organizational effectiveness, but the bundling of practices. For example, Delaney and Huselid (1996) reported that the coupling of staffing and training practices by organizations related to staffing and training correlated to organizational performance. Similarly, Huselid (1995) defined high-performance work practices as integrated systems of recruitment and selection, performance management, and training, and found that use of such systems predicted employee retention, individual performance, and long-term corporate financial performance. Crook and colleagues (2011) reported a meta-analysis of 66 studies and found that aggregate human capital (knowledge, skills, and abilities) within organizations strongly predicted firm performance; human capital relates strongly to performance, especially when that human capital is not readily acquirable in the labor market. Finally, Aguinis and Kraiger (2009) reviewed multiple studies conducted in Europe that showed the impact of sound training policies and practices on measures of organizational effectiveness. Indeed, the integration of training, development, and appraisal is so well accepted, that texts on job and work analysis (Brannick, Levine, & Morgeson, 2007), industrial/organizational psychology (Cascio & Aguinis, 2011), and performance improvement (Mager & Pipe, 1997) all emphasize the importance of first identifying the skills and knowledge needed to perform jobs effectively, and *then* assigning the skill to one or more HR systems that include training, development, and performance appraisal. In other words, each system is seen as an alternative path to the same goal: a competent workforce.

Looked at another way, organizations can best accomplish their goals, continually innovate, and differentiate themselves from competition by optimizing talent within the organization. Katz and Kahn (1978) model organizational effectiveness as input–throughput–output systems, with talent – partly in the form of member knowledge and skills – as a major input. How do organizations optimize talent? In the simplest sense, they find it, manage it, or grow it. That is, the effective organization institutes systems for attracting, selecting, and assigning new employees; setting performance standards and maintaining efficient and effective work procedures; and training and developing its members. We do not argue here that training and development are more important than selection and management systems, but simply that they are necessary components of effective organizations.

Why the Psychology of Training, Development, and Performance Improvement?

Browsing the business section of the airport book store can reveal a number of practice-oriented books on training, development, and performance appraisal and feedback. Similarly, while not all business management students are required to take a course in human resource development, those that do are exposed to multiple systems for how to train and develop human capital. Why then a handbook on the *psychology* of training, development, and appraisal? The direct answer is that the consumers of all these systems are human beings who can be best characterized as unpredictable in terms of how they respond to any intervention geared towards personal or professional improvement.

Industrial and organizational psychology (I/O) is the study of human behavior, emotion, and cognition at work. In short I/O brings science to investigating how individuals, organizations, and states can support, train, develop, and provide feedback to their human resources to optimize performance and well-being.

Consider two examples. First, in the area of workplace training: multiple meta-analyses reveal that in general training works – individuals who received training show more knowledge and better skills than they did before training, or in comparison to those who did not receive training (see Salas et al., 2012, for a summary of such meta-analyses). However, anyone who has delivered training or taught in a classroom can attest that there is a wide range of responses to even effective instruction. Some learners are attentive and appear to get it, others seem puzzled, and yet others are more interested in engaging with other distractions, from technology to doodling on the page. Similarly, in nearly all aforementioned meta-analyses, there are broad confidence intervals around the mean effect sizes for interventions – meaning that the effectiveness of training varies considerably across studies, settings, populations, and so forth. In one meta-analysis, Kraiger and Jerden (2007) examined the effectiveness of providing learner control in computer-based training. Learner control refers to the extent to which the learner can influence his or her learning experiences by determining features of the learning environment such as the topics or sequencing of learning activities. Learner control is generally perceived as not only advantageous to learning, but also desirable to learners. While Kraiger and Jerden found some support for the learner control leading to more learning for certain outcomes, in general, the mean effect sizes for most outcomes were near .00 with large confidence intervals, suggesting that as often as learner control helped learning, it hindered it. Perhaps more striking, similar results were found for reactions to (or liking) of the provision of control. Across studies, trainees were almost as likely not to like learner control as to endorse it. These findings led Kraiger and Jerden to propose a construct of “preference for control,” which moderates both the extent to which trainees respond (affectively) to learner control and benefit by it. Put more simply, people are different and those differences matter in the training environment.

Second, in the area of performance management, it is well documented that feedback is essential to performance improvement. For example, Cascio and Aguinis (2011) contend: “One of the central purposes of performance management systems is to serve as a personal development tool. However, the mere presence of performance feedback does not guarantee a positive effect on future performance” (p. 104). Again, anyone who has had to provide feedback to a subordinate or graduate advisee knows that there is considerable variability in how individuals respond to feedback (e.g., information vs. motivational vs. threatening). Indeed, Alvero, Bucklin, and Austin (2001) reviewed 68 feedback studies and concluded that “feedback does not uniformly improve performance” (p. 3). More specifically, Kluger and DeNisi (1996) conducted a meta-analysis of 131 studies and showed that while performance feedback had an overall small positive effect on subsequent performance, in 38 percent of the interventions, it had a *negative* effect on performance. In a meta-analysis of the effects on multisource feedback on performance, while most effect sizes were positive, overall effects were small (Smither, London, & Reilly, 2005).

To be certain, much of the variability in the effectiveness of performance feedback depends on characteristics of the feedback itself (cf., DeNisi & Kluger, 2000). But, it is also the case that receiving, processing, and responding to feedback represents a series of psychological behaviors (Ilgen, Fisher, & Taylor, 1979). As such, different individuals are likely to respond to identical feedback in different ways. Consistent with this, London and Smither (2002) proposed the construct of feedback orientation, a characteristic of individuals that includes affect towards and perceived value of feedback, propensity to seek feedback, the propensity to process feedback mindfully, sensitivity to others’ perspectives, and a sense of accountability to act on feedback. Once again, the point here is that people differ, and those differences matter in how feedback is received, processed, and acted upon.

Similar examples can be found for other training methods, as well as other interventions such as career guidance and performance appraisal. While there is value in “how to” guides, the delineation of best practices should ideally follow an empirically based understanding of the role of the person in context, or the psychology of training, development, and appraisal. That is the objective for this handbook.

The Scope of the Handbook

This handbook is a unique contribution to the field, as it joins together training and appraisal as tools for promoting individual development within organizations. The handbook is divided into four sections: training, e-learning, personal and professional development in organizations, and performance management.

Training

Training and development are often discussed together as a systematic process, initiated by the organization, resulting in relatively permanent changes in the knowledge, skills, or attitudes of its members. The distinction between training and development is that the former is typically reserved for events facilitating the acquisition of knowledge, skills, and attitudes (KSAs) relevant to an immediate or forthcoming role, whereas development refers to activities leading to the acquisition of KSAs or competencies for which there may be no immediate application. Further, training is typically sponsored by the organization as training outcomes have direct benefits to the organization. Development activities may be sponsored by the organization as well, but may also be initiated by individuals within the organization without recognition or even awareness by the organization.

Section I's focus is on training. The aim of this section is to present the state of the art of training processes examined from a psychological perspective. A set of training scholars, researchers, and professionals review and discuss different processes and concepts relevant to the design, delivery, and evaluation of training.

In **Chapter 2 Sigmar Malvezzi** explores the development of training from an intuitive to a manageable, institutionalized instrument that is now used to explicitly support explicitly wider organizational development. The chapter seeks to analyze the path training has taken to become a strategic social institution as it has evolved from medieval guilds through the era of industrialization into the technology-integrated practices used by organizations in the twenty-first century.

In **Chapter 3 Rodrigo R. Ferreira, Gardênia da Silva Abbad, and Luciana Mourão** focus on training needs analysis (TNA) as an intervention that is used to understand development needs within organizational settings better. The contributors review the wide range of literature, some 200 papers, and note there is still relatively little theoretical or empirical research on TNA. In spite of this they note that TNA does offer processes for the collection, analysis, and interpretation of data in order to define when formal instructional actions are the best option, help inform the profile of who needs to be trained, and shape the content should be taught.

In **Chapter 4 Karen Evans and Natasha Kersh** review workplace learning. They review three aspects of learning, namely those of *individual*, *environmental*, and *organizational*. The contributors then review the concept of competence development at work, and factors such as the development of the knowledge economy and rapidly changing workplace environments.

In **Chapter 5 Alan M. Saks** focuses on the transfer of socialization in learning. The chapter explores the implications of the transfer of training for organizational socialization and argues that research and practice on organizational socialization can be significantly improved by applying what we know about the transfer of training to the design and delivery of socialization programs. In the first section Saks describes how similar training and socialization programs are in that learning is the most fundamental and primary objective and outcome of training and organizational socialization. Second, Saks reviews the socialization research on employee orientation and training before finally offering a new construct to the socialization literature based on Baldwin and Ford's (1988) model of the transfer of training process.

In **Chapter 6 Nina Keith and Christian Wolff** review the literature from active learning. The chapter explores active learning approaches as well as benefits and challenges associated with their use in organizational training including a discussion of theory and findings regarding the effectiveness of active learning approaches as well as cognitive, motivational, and emotional processes that may underlie their effectiveness.

In **Chapter 7 Darryl Gaud** focuses on the competences of effective teachers and trainers. The chapter examines the literature on competencies, processes, and personal characteristics of workplace trainers through a lens of Knowles' (1980) model of training. The chapter suggests that training is the strategic linchpin of modern productivity, business innovation, and renewed employee commitment that results in higher morale and lower employee turnover when high-quality delivery is achieved by competent trainers.

In **Chapter 8 Jonathan Passmore and Maria Joao Velez** consider the question of training evaluation. The chapter sets out a brief critical review of some of the commonly used training evaluation models, including Kirkpatrick, Phillip's ROI, CIPP, CIRO, Brinkerhoff, IPO, HRD Evaluation and Research, Success Case Method, Dessinger-Moseley Full-Scope (DeSimone, Werner, & Harris, 2002), as well as the SOAP-M evaluation model. The chapter notes the difficulties of evaluation and recognizes that evaluation needs to take account of organizational practice and available resources.

In **Chapter 9 Linda Argote** reviews knowledge transfer and organizational learning. She argues that the characteristics of the organizational context explain variation in organizational learning and knowledge retention and transfer. The organizational context interacts with experience to affect organizational learning and the retention and transfer of knowledge acquired through learning. Similarly, the context can promote knowledge retention or facilitate knowledge decay.

E-Learning and virtual learning

Because of the growing popularity of various forms of technology-distribution instruction, Section II addresses issues specific to the design and delivery of e-learning. E-learning is a deliberately broad term that includes various methods of delivering training via technology (e.g., multimedia learning, computer-assisted instruction, web-based training, and virtual learning environments). Virtual learning is often used synonymously with e-learning, but also connotes immersion in a virtual world, for example, through simulations or even alternative worlds such as *Second Life* or massive multiplayer online games. The aim of this section is to present evidence of best practices with respect to the management and delivery of e-learning and virtual learning.

In **Chapter 10 Annette Towler and Tyree Mitchell** examine facilitation in e-learning environments, specifically the role of the trainer. While trainers typically have less direct

contact with learners in e-learning (compared to face-to-face instruction), they nonetheless play critical roles in encouraging learner engagement and active processing of training content. In their chapter, Towler and Mitchell focus on both the relationship between the trainer and the trainee within the e-learning environment, and recommend specific trainer behaviors conducive to trainee learning.

In **Chapter 11 Jean-Luc Gurtner** reviews current trends and future directions in virtual learning environments (VLEs). Gurtner discusses the growing prevalence of VLEs in higher education, and contrasts them with blended or hybrid learning systems. He presents a thorough discussion of design and delivery characteristics of effective VLEs, based on research, and concludes with a discussion of psychological and social issues to consider as VLEs become more prevalent.

In **Chapter 12 Rebecca Grossman, Kyle Heyne, and Eduardo Salas** review and discuss two more increasingly popular training methods – simulations and serious games. Simulations are artificial scenarios or environments that represent some aspect of reality. Serious games do as well, but add established rules or constraints, as well as a specific goal. Both simulations and games enable trainees to develop new skills and practice new or old skills in a relatively safe environment with high potential for feedback. Grossman and colleagues review evidence for the effectiveness of both simulation-based and game-based training, as well as discussing best practices for the design and delivery of each.

Development

Section III of the book covers personal and professional development in organizations and at work. Various authors bring several ideas, concepts, and tools for promoting development within organizations and in the professional field. They review, present, and discuss the state of the art on the subject from a psychological perspective.

In **Chapter 13 Kurt Kraiger and Thomas M. Cavanagh** review the literature on training and personal development. They focus on the strategic importance of training and its effectiveness, identify established and emerging best practices, and emphasize that the promotion of active learning, among others, is still one best practice in maximizing learning outcomes.

In **Chapter 14 David G. Collings** explores the contribution of talent management to employee development. He highlights research from Cornell University, USA, that has identified that talent management is the top human resources priority on CEOs' agenda. The chapter critically reviews the evidence as to whether talent management contributes to organizational success.

In **Chapter 15 Lisa Anderson and Charlotte Coleman** review the research on the use of action learning sets as a learning methodology. They focus on the development of action learning and its role in the development of managers. The most widespread approaches to action learning are presented as well as a reflection on the reasons why it is becoming more and more used in management education and development.

In **Chapter 16 Leonor Pais and Nuno Rebelo dos Santos** discuss the contribution of knowledge sharing (where it is seen as a cooperation process) to employee development. The authors approach the literature on knowledge sharing focusing on aspects where this is oriented to people instead of technology. They consider in knowledge sharing the several competing drivers that make the situation a social dilemma. The literature on knowledge sharing as a social dilemma is reviewed and summarized. The authors discuss how this approach can promote personal and professional development.

In **Chapter 17 Robert Roe** discusses the roles of the organization and the employee in development of the employee's career. The author focuses on the design of an

employee-development system based on the concept of the person's agency. He discusses this employee-development system and reviews theoretical concepts and methods suitable to ground this system. The roles of people involved and practical illustrations of the concepts are also explored in the chapter.

In **Chapter 18 Simon Beusaert, Mien Segers, and Therese Grohnert** discuss the use of personal development plans as learning and development tools. They define the concept, explore the theories on which use of the tool is based, and characterize the purposes of its use. The required conditions (person related and context related) critical to personal development plans are discussed. The authors underline the feed-forward function and present a critical perspective on the informal learning brought about by personal development plans. Suggestions for future research are given.

In **Chapter 19 Thomas Garavan, Fergal O'Brien, and Sandra Watson** consider leadership development's contribution to organizational success. They explore what leadership development is and what the different types of leadership development practices are in organizations. They review published work on the organizational outcomes of leadership development practices and present an agenda for future research on the subject.

In **Chapter 20 Nuno Rebelo dos Santos and Leonor Pais** explore reflection-on-action as a means for personal and professional development within organizations. Balint Groups, supervision, communities of practice and mentoring are presented as structured actions of intentional development based on reflection on real professional practice. The authors characterize those practices according to the literature review, showing how they have blurred boundaries and at the same time have a strong conceptual identity. They present an overview of the state of art of their research.

Finally in **Chapter 21 Valéria Vieira de Moraes and Jairo Borges de Andrade** consider informal learning as a process for development within organizations. De Moraes and de Andrade start by describing informal learning and its role for the development of individuals in workplaces.

Performance management

The fourth and final section covers the use of formal and informal feedback as tools to encourage performance improvement. The section contains five chapters focusing on appraisal and feedback.

In **Chapter 22 Jeffrey Spence and Patricia Baratta** from review the literature on performance appraisal as a tool for employee development. They note that the great conundrum of appraisals is that they are needed to fulfill a number of important personnel and organizational needs, yet increasingly they have a reputation for being a waste of manager and employee time. The contributors consider whether performance ratings are accurate and whether reviews contribute to improvements in performance.

In **Chapter 23 Manuel London and Edward Mone** explore the issue of feedback design and how the design of feedback sessions can be enhanced to optimize their contribution to organizational life. The contributors note that feedback needs to form part of a wider set of organizational interventions, if it is to be successful. Specifically feedback needs to be part of a performance management process that includes: articulation of the department's mission and alignment of the employee's job and strengths with department and company goals, ongoing discussions about expectations, developmental experiences, regular discussions about performance, clear standards of performance, training in the use feedback, and employee surveys to track satisfaction.

In **Chapter 24 Clive Fletcher** considers how individuals can use 360-degree feedback as a development tool. The chapter focuses on the practical aspects of using 360-degree feedback in development. Fletcher considers whether differing views of an individual do really emerge from such feedback processes and notes that the research concludes that differences between rater groups have often been found to be large. This raises questions about the justification for using the same rating dimensions for each group and whether use of the same rating dimensions across different groups is valid.

In **Chapter 25 Piet Van den Bossche, Sara van Waes, and Janine van der Rijt** explore social networks and their role in feedback, specifically the idea that professional development is for a large part driven by discursive interactions with others. The contributors start by reflecting on the different strands of research and theoretical perspectives before describing how a social network perspective can be used to provide a common angle to grasp the role of the relationships that provide feedback. They move on to consider the different aspects of networks and their contribution to development.

Conclusion

This volume seeks to adopt a truly international feel to the study and practice of professional development in organizations. Contributing to it are leading international scholars who collectively have provided critical literature reviews and discussions across a wide area of training, development, and appraisal topics. In doing so, we hope to encourage stronger cross-fertilization between these areas of research, integrate research and practice across different geographical areas, and encourage researchers to draw on the wider psychological (research-based) literature to inform further research and practice.

References

- Aguinis, H., & Kraiger, K. (2009). Benefits of training and development for individuals and teams, organizations, and society. *Annual Review of Psychology*, 60, 451–474.
- Alvero, A. M., Bucklin, B. R., & Austin, J. (2001). An objective review of the effectiveness and essential characteristics of performance feedback in organizational settings (1985–1998). *Journal of Organizational Behavior Management*, 21, 3–29.
- Baldwin, T. T., & Ford, K. J. (1988). Transfer of training: A review and directions for future research. *Personnel Psychology*, 41, 63–105.
- Boudreau, J., & Ramstad, P. (2005). Talentship, talent segmentation, and sustainability: A new HR decision science paradigm for a new strategy definition. *Human Resource Management*, 44, 129–136.
- Brannick, M. T., Levine, E. L., & Morgeson, F. P. (2007). *Job and Work Analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Cascio, W. F., & Aguinis, H. (2011). *Applied Psychology in Human Resource Management* (7th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen, D. J., Jr. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of Applied Psychology*, 96, 443–456.
- Delancy, J. T., & Huselid, M. A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal*, 39, 949–969.
- DeNisi, A., & Kluger, A. (2000). Feedback effectiveness: Can 360-degree appraisals be improved? *Academy of Management Executive*, 14, 129–139.

- DeSimone, R. L., Werner, J. M., & Harris, D. M. (2002). *Human Resource Development* (3rd ed.). Orlando, FL: Harcourt College Publishers.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, 38, 635–670.
- Huselid, M. A., & Becker, B. E. (2011). Bridging micro and macro domains: Workforce differentiation and strategic human resource management. *Journal of Management*, 37, 421–428.
- Ilgen, D. R., Fisher, C. D., & Taylor, M. S. (1979). Consequences of individual feedback on behavior in organizations. *Journal of Applied Psychology*, 64, 349–371.
- Katz, D., & Kahn, R. (1966). *The Social Psychology of Organizations*. New York: John Wiley & Sons, Inc.
- Kluger, A. N., & DeNisi, A. (1996). The effects of feedback interventions on performance: Historical review, a meta-analysis and a preliminary feedback intervention theory. *Psychological Bulletin*, 119, 254–284.
- Knowles, M. S. (1980). *The Modern Practice of Adult Education from Pedagogy to Andragogy*. Englewood Cliffs, NJ: Cambridge Book Company.
- Kraiger, K., & Jerden, E. (2007). A new look at learner control: Meta-analytic results and directions for future research. In S. M. Fiore & E. Salas (Eds.), *Where is the Learning in Distance Learning? Towards a Science of Distributed Learning and Training* (pp. 65–90). Washington, DC: American Psychological Association.
- London, M., & Smither, J. W. (2002). Feedback orientation, feedback culture, and the longitudinal performance management process. *Human Resource Management Review*, 12, 81–100.
- Mager, R. F., & Pipe, P. (1997). *Analyzing Performance Problems* (3rd ed.). Atlanta, GA: Center for Effective Performance, Inc.
- Salas, E., Tannenbaum, S. I., Kraiger, K., & Smith-Jentsch, K. A. (2012). The science of training and development in organizations: What matters in practice. *Psychological Science in the Public Interest*, 13(2), 74–101.
- Smither, J. W., London, M., & Reilly, R. R. (2005). Does performance improve following multisource feedback? A theoretical model, meta-analysis, and review of empirical findings. *Personnel Psychology*, 58, 33–66.

