Theory Development and Convergence of Human Resource Fields: Implications for Human Performance Technology

Yonjoo Cho, PhD, and Seung Won Yoon, PhD

In management and human resource (HR) fields, consensus is growing that knowledge workers are the main source of value-adding innovations that lead to organizational competitiveness (Drucker, 1999; Nonaka & Takeuchi, 1995, Ruona & Gibson, 2004; Ulrich & Brockbank, 2005). Drucker (1999) coined the term *knowledge workers* to describe skilled workers in the economy and predicted that the future success of organizations will rely on their productivity. Such a workforce will require highly specialized knowledge to create organizational value through intangible assets, including knowledge of the market, customers, business processes, and technologies (Davenport & Prusak, 1998; Gherardi, 2006).

Human resource fields are converging to the goal of improving the performance of knowledge workers (Ruona & Gibson, 2004). Past views of HR fields consisting of the related but divergent fields of human resource development (HRD), human resource management (HRM), and organization development (OD) are evident in McLagan's (1989) *HR wheel*. She defined HRD as the integrated use of training and development, career development, and OD to improve individual, group, and organizational effectiveness, and HRM as another HR field handling labor relations, employee assistance, compensation and benefits, and HR information systems.

McLagan's (1989) wheel and her later update of the HR field (1996) never included human performance technology (HPT) as a relevant or legitimate HR field. Ruona and Gibson (2004), however, recognized HPT as a growing,

This study examines major theory developments in human resource (HR) fields and discusses implications for human performance technology (HPT). Differentiated HR fields are converging to improve organizational performance through knowledge-based innovations. Ruona and Gibson (2004) made a similar observation and analyzed the historical evolution and convergence of three HR-related fields: human resource management (HRM), human resource development (HRD), and organization development (OD). A field left out in their analysis is HPT. Many learning professionals recognize HPT as a more comprehensive approach to improving organizational performance issues (Molenda & Pershing, 2008; Pershing, 2006). However, little research has been done to advance the theory development of HPT and discuss its relationships within HR fields. This study adds a new perspective to that of Ruona and Gibson's historical analysis of HR fields by examining convergence issues from a theory development perspective.

innovative field whose presence was becoming stronger in the 1990s as the entire HR field placed heavier emphasis on improving organizational performance as opposed to training or employee development. This evolving view is reflected in Pershing's (2006) definition of HPT as "the study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are results-oriented, comprehensive, and systemic" (p. 6).

Ruona and Gibson (2004) also pointed out that distinctions among HR fields continue to blur, and similarities across fields provide the necessary synergy for HR to be a valued organizational partner. Similar to the shift of HR functions from reactive operations to proactive strategies over the past 20 years (Brockbank, 1999; Ruona & Gibson, 2004), the focus of HPT has evolved from individuals' behavioral improvement to performance improvement at the group and the organizational levels (Rummler, 2007).

Differing opinions still exist regarding the positioning of each HR field. For instance, those in HRD may want to include OD as a core component in its view of organizations as sociotechnical systems, while the OD field in general does not see itself as a subset of HRD and may not want to be associated with HRD (Gary N. McLean, personal communication, July 30, 2009). Conceptually HPT is similar to OD in that it is an applied behavioral science and identifies systems theory as its foundation (Foshay, Moller, Schwen, Kalman, & Haney, 1999; Jacobs, 1988, 1989; Pershing, 2006). Stolovitch (2007) has also pointed out that both HPT and OD are primarily concerned with improving organizational performance. HPT has gained recognition for the solid application of behaviorism, especially systematic processes of instructional design (Hardre, 2003; Molenda & Pershing, 2008) and varied human performance improvement models (Addison & Haig, 2006; Gilbert, 1996; Pershing, 2006; Rummler & Brache, 1995; Van Tiem, Moseley, & Dessinger, 2004; Wile, 1996). Designing or facilitating change of human behavior is the primary focus of HRD as well.

Despite conceptual similarities and complementary relationships observed between HPT and other HR fields, many HPT scholars agree that more theory development and theory-grounded empirical research are in order (Huglin, 2009; Johnsen, Huglin, & Marker, 2008; Klein, 2002; Marker, Huglin, & Johnsen, 2006; Pershing, Lee, & Cheng, 2008).

Research Problem and Purpose

Learning and development professionals recognize that training and formal instruction can be slow and expensive and are often limited to problems involving knowledge and skills. In response, HPT has grown as an alternative approach to addressing organizational performance improvement (Dean & Ripley, 1997; Pershing, 2006; Stolovitch, 2007; Van Tiem et al., 2004). It is defined as a "field of practice" (Forshay et al., 1999, p. 896) whose main purpose is "to engineer systems that allow people and organizations to perform in ways that all stakeholders value" (Pershing, 2006, p. xiii). HPT

approaches in organizations have been commonly practiced in forms of performance analysis, gap and cause analysis (Harless, 1973; Rossett, 2009), and various types of noninstructional as well as instructional HR interventions (Langdon, Whiteside, & McKenna, 1999; Stolovitch & Keeps, 1999). Efforts to develop core theories of HPT, however, have been less visible in the field in comparison to related HR fields.

Ruona and Gibson (2004) pointed out that HR fields in the past had a different primary operational goal, for example, HRM to manage employee relations, HRD to develop workforce skills, and OD to enhance organizational effectiveness, but all have evolved and converged to emphasize strategic and proactive roles to create

Efforts to develop core theories of HPT, however, have been less visible in the field in comparison to related HR fields.

learning organizations. To support this view, they examined the historical contexts and dominant approaches of each field. Another field that was recognized but not included in their analysis and should be examined for convergence is HPT.

Investigating disciplinary boundaries and components of relevance is an important scholarly task that shapes the identity of the field (Swanson, 2001), but little research has been done to promote or synthesize theory development in HPT and discuss its relationships within HR fields. Examining how each field compares in terms of major theory development can add new insights into the HR convergence perspective and broaden our understanding of where HPT fits or should be headed. The purpose of this study, therefore, is to examine the major theory development efforts in HR fields and discuss implications for HPT from a theoretical perspective.

Research Method and Questions

Ruona and Gibson (2004) suggested including HPT in future analyses of HR convergence issues. In addition, many HPT scholars have voiced the need for more theory development (Huglin, 2009; Johnsen et al., 2008; Klein, 2002; Marker et al., 2006; Pershing et al., 2008). In response, we conducted an integrative literature review following the procedure Torraco (2005) suggested. This form of literature review synthesizes a mature or emerging research topic by comparing, contrasting, and evaluating relevant concepts, theories, models, and empirical studies and adds value to the literature by creating a synthesized research framework or identifying research directions (Torraco, 2005).

We used related key words—*theory development, research and practice, core theories, foundation, origin, human resource development, human resource management, organizational development*, and (*human*) *performance technology*—in multisource searches, which included online university library search systems, journals, and handbooks published by professional associations of HR fields. In addition, secondary sources were referenced from works retrieved from the previous two methods. Based on

the examination of the literature, we formed the following research questions:

1. What are the major theory development efforts in HR fields?
2. What knowledge does theory development of HR fields add to understanding HR convergence?
3. What are the implications of theory development and HR convergence to HPT?

Conceptual Framework: Pasteur's Quadrant

Before examining the convergence theme of HR fields through the lens of theory development, it is important to consider recent debates on basic research versus applied research from other applied fields, such as computer science and management research, whose impact on organizations is critical. The goal of basic research is the discovery of knowledge and the production of new knowledge, whereas applied research purports the discovery of new relationships in the knowledge within the domain to which the research is applied (Torraco, 2004). An important role for theory development in applied research is to bridge gaps in knowledge that exist along the research continuum from basic to applied (Lynham, 2002; Torraco, 2004).

For instance, recent discussion on research in computer science centers on Pasteur's quadrant (Stokes, 1997), as shown in Figure 1. The major argument of this matrix model is that the current research trend of computer science is purely basic and theory oriented as in physics, but the future of the field should focus on use-inspired research to have more relevance to the field. This implies that the ideal type of research is a combination of foundational knowledge (i.e., theory development and advancement) and research motivated by potential uses, such as what Pasteur successfully accomplished through his research in microbiology and chemistry.

Considerations of use

		No	Yes
Quest for foundational understanding	Yes	Basic disciplinary research	Use-inspired research (HPT)
	No		Pure applied research (consulting firms)

Note. From *Pasteur's Quadrant: Basic Science and Technological Innovation* (p. 73), by D. E. Stokes, 1997, Washington, DC; Brookings Institution. Copyright 1997. Adapted with permission.

FIGURE 1. PASTEUR'S QUADRANT: BASIC AND APPLIED RESEARCH

 Performance Improvement Quarterly

The importance of use-based research is also recognized by management scholars (Tushman & O'Reilly, 2007). They maintain that management scholars pursue fundamental understanding of phenomena with the goal of tackling complex real-world problems in organizations. Instead of concentrating on pure theory testing and development, theory-driven practices, which should be a combination of theory and use, are necessary to address complex performance problems in organizations (Adler & Harzing, 2009; Bennis & O'Toole, 2005; Ghoshal, 2005; Mintzberg, 2004; Pfeffer & Fong, 2002). The importance of theory-driven practices in management research resonates in all HR fields (Short, Keefer, & Stone, 2009).

Theory Development Efforts in HR Fields

This section presents a summary of major theory development efforts in the fields of HRD, HRM, and OD and discusses which theories are relevant to HPT or how they have been applied within HPT.

Human Resource Development

Learning and development has been at the core of HRD roles (McLagan, 1989; Werner & DeSimone, 2009). Over the years, the scope of HRD has grown to address the development issues of nations and global communities (McLean & McLean, 2001). Major theories adopted in HRD include learning theories, systems theory, economic theory, performance theory, and culture (Jacobs, 1988, 1989; McLean & McLean, 2001; Pershing, 2006; Schein, 1996; Swanson & Holton, 2009; Weinberger, 1998). Table 1 shows the matrix of theory categories combined with common research examples at the individual, group and organizational, and community and societal levels (Garavan, McGuire, & O'Donnell, 2004).

The history of the HRD field reflects a shift from employees' learning and development orientation to organizational and societal performance upholding human values (Ruona & Gibson, 2004; Swanson & Holton, 2009). This shift points to the significance of performance improvement models (Jabobs, 1988; Weinberger, 1998) and systems theory (Jacobs, 1989). There is a close link between HRD and HPT.

Major theories and the expanding scope of HRD work inform us that the field has developed unique positions and research streams, such as defining HRD (see the special issue of *Human Resource Development International*, Volume 4, Number 3; Woodall, 2001); theory-building efforts (Holton, 2002; Lynham, 2000; Torraco, 2004); the Dimensions of Learning Organization Questionnaire and related studies (Egan, Yang, & Bartlett, 2004; Watkins & Marsick, 2003); debates on learning and performance (Kuchinke, 1998, 2007b; Swanson & Holton, 2009); the debate on rigor versus relevance (Gilley, 2006; Short, Keefer, & Stone, 2009; Woodall, 2006); and international and national HRD (McLean & McLean, 2001; Ardichvili & Kuchinke, 2002).

In particular, positioning international and national HRD at the community and societal levels is unique because most theories of organizations

THEORY	INDIVIDUAL LEVEL	GROUP AND ORGANIZATIONAL LEVEL	COMMUNITY AND SOCIETY LEVEL
TABLE 1	**MAJOR THEORIES OF HUMAN RESOURCE DEVELOPMENT AND LEVELS OF ANALYSIS**		
Learning theories	Adult learning theory Motivation, efficacy Learning transfer Job satisfaction	Organizational learning Learning organization Team learning (e.g., action learning)	Development of communities and society Learning communities
Performance theory	Process models of improving an organization's performance through change of behaviors		NA
Systems theory	Systems theory applied to HRD (HPT)		NA
Economic theory	Strategic HRD/HRM Human capital theory		Social capital
Culture	Organizational behavior	Organization development	International/ national HRD

Note. NA means not available and in need of further investigation.

and performance technology have been developed in Western contexts (Korpiaho, Päiviö, & Räsänen, 2007; Lau, 2002; Palmer, 2006; Rynes, 2007b; White, 2002).

Human Resource Management

HRM refers to practices and systems that influence employees' behavior, attitudes, and performance (Noe, 2008). Werner and DeSimone (2009) divided the functions of HRM into primary and secondary functions, placing HRD as a part of HRM's primary functions. Table 2 summarizes major theoretical efforts developed in HRM over the past 20 years.

Quantitative analysis has dominated research methods in the field of HRM in the names of strategic HRM, resource-based view, and evidence-based management to demonstrate evidence about HR functions and the organization's financial performance outcomes. Theories and research in HRM have consistently been targeted at all levels of analysis.

The 20-year longitudinal study of HR competence conducted at the University of Michigan has contributed to establishing the credibility of HR for organizational competitiveness and suggested that it should play more strategic roles (Ulrich & Brockbank, 2005). In addition, recent debates on relevance center on the effectiveness of management education (Armstrong & Fukami, 2009; Bennis & O'Toole, 2005; Ghoshal, 2005; Mintzberg, 2004; Pfeffer & Fong, 2002). Critiquing the disparity between the production of research studies and actual use of them, scholars have suggested that management research should be based in use- and application-centered studies that are relevant to organizational phenomena (Adler & Harzing, 2009; Rynes, 2007a; Tushman, O'Reilly, Fenollosa, Kleinbaum, & McGrath, 2007), as emphasized in Pasteur's quadrant.

TABLE 2 MAJOR THEORIES AND RESEARCH TOPICS IN HUMAN RESOURCE MANAGEMENT

TOPIC	DESCRIPTION	AUTHOR
Strategic HRM	The empirical literature over the past 15 years demonstrated that HR could influence financial outcomes.	Becker and Huselid (2006), Becker et al., (2001)
Resource-based view of the firm	Organizations can build competitive advantage based on valuable internal resources.	Barney (2001)
Evidence-based management	The logic of academic research is incorporated into managerial decision making as much as the empirical results are.	Pfeffer and Sutton (2006)
University of Michigan's study of HR competence	The longest and the largest ongoing study of HR competencies (1987, 1992, 1997, 2002).	Ulrich and Brockbank (2005)
Rigor versus relevance debate	Critiques on management education and development.	Armstrong and Fukami (2009), Bennis and O'Toole (2005), Ghoshal (2005), Mintzberg (2004), Pfeffer and Fong (2002)

Recently scholars within the field have pointed out the lack of studies from different cultures and nations (Korpiaho et al., 2007; Lau, 2002; Palmer, 2006; Rynes, 2007b; White, 2002). It is noticeable that no studies in the HRM literature we reviewed mentioned HPT. One possible explanation is that HPT is commonly addressed in programs that teach instructional design and training (Medsker, Hunter, Stepich, Rowland, & Basnet, 1995), while HRM is frequently situated in business schools or departments of industrial and labor relations.

Organization Development

OD is a process used to enhance both the effectiveness of an organization and the well-being of its members through planned interventions (Werner & DeSimone, 2009). It aims to accomplish these complementary goals through planned interventions in order to manage changes. Action research, the primary methodology in OD, is based on a collaborative problem-solving relationship between researcher and client (Coghlan & Brannick, 2005). Appreciative inquiry, a less commonly implemented methodology, is a new approach to action research for social innovation through sharing of positive practices (Cooperrider & Srivastva, 1987).

From its inception, OD has emphasized both the practice and the scholarship of planned organizational change (Austin & Bartunek, 2006). Due to the field's focus on change, OD interventions have been implemented by practitioners, while theories of change were formulated by academics, resulting in separations between the two (Austin & Bartunek, 2006). Major theories of OD, shown in Table 3, can be grouped into two categories: change process theory and implementation theory (Austin & Bartunek, 2006; Porras & Robertson, 1987; Van de Ven & Poole, 1995; Werner & DeSimone, 2009).

Change process theories explain the dynamics through which organizational improvement and change take place, while implementation theories focus on activities that change agents must undertake in effecting organizational change. The lack of a comprehensive theory, particularly a well-formulated theory of the change process, impedes practice, evaluation, and research in OD (Porras & Robertson, 1987).

Although OD's central focus on managing change in an organization is distinguishable from other HR fields' focus (developing and managing human resources), OD is an important part of HR fields, because OD activities focus on sociotechnical systems and are affected by numerous HR activities (Rothwell & Sullivan, 2005). Our observation of the intersection between OD and HR fields is also supported by the fact that personal and organizational learning are the major goal of organizational changes (Grieves, 2000). OD and HPT are highly practice-oriented fields; OD has produced theories of change and implementation, while HPT lacks theory development efforts.

Convergence of HR Fields From Theoretical Perspectives

Our analysis and comparison of HR fields through the lens of theory development and main research topics indicate that perceptions of divergence lie in, first, the extent of theory development efforts. Adopting interdisciplinary approaches to theory development (e.g., learning theories, systems theory, and economic theory) is most evident in HRD. Theory-building efforts for competitive advantages through human capital is strongest in the literature of HRM, while the core of OD remains applying theories of change and implementation to improve organizational effectiveness. The second difference concerns the application of work scope. Levels and scope of work are constantly targeted at the organizational level in HRM and OD, whereas HRD sees the predominance of analysis at the individual and the organizational levels and is moving into community and societal levels of analysis (Garavan et al., 2004). The third difference is research methods used. Both quantitative and qualitative research methods are used in HRD, while quantitative analysis is clearly dominant in HRM research, and action research is the most common research method in OD.

Despite these differences, it is apparent that the HR fields share more commonalities in line with (1) focusing on learning and development at individual, group, and organizational levels; (2) improving organizational performance through people; (3) moving into implementing interdisciplinary and macro- and multilevel systems perspectives; and (4) attempting to improve practice through theory building and trying to bridge the gap between theory and practice (because HR fields are fundamentally applied sciences). Critiques and voices for future directions within each field emphasize those elements (Swanson & Holton, 2009; Ulrich & Brockbank, 2005; Werner & DeSimone, 2009).

TABLE 3	MAJOR THEORIES OF ORGANIZATIONAL DEVELOPMENT
DEFINITION	**TYPES**
Change process theory	*Life cycle theory* adopts the metaphor of organic growth as a heuristic device to explain development in an organizational entity, e.g., Kimberly and Miles's (1980) organizational development
	Teleological theory explains that purpose or goal is the final cause for guiding movement of an entity, e.g., Chakravarthy and Lorange's (1991) strategic planning and goal setting
	Dialectical theory assumes that organizational entities exist in a pluralistic world of colliding forces that compete with each other for control, e.g., Neal and Northcraft's (1991) negotiation theory
	Evolution theory explains that change proceeds through a continuous cycle of variation, selection, and retention, e.g., Burgelman's (1991) ecology of strategy making
Implementation theory	*Human process-based intervention theory* emphasizes the process of change and focus on changing behaviors (Schein, 1996)
	Technostructural intervention theory focuses on improving work (e.g., job design) and the level of participation in the change process
	Sociotechnical systems designs are directed at the fit between the technological configuration and the social structure of work (e.g., quality circles, total quality management, and self-managed teams)
	Organization transformation change theory focuses on a new vision for an organization (e.g., cultural change, organizational learning, and high-performance work systems: Argyris, 1977, 1991; Gephart, Marsick, Van Buren, & Spiro, 1996; Senge, 1990; Watkins & Marsick, 2003)

In view of Pasteur's quadrant, scholars of HRM (Bennis & O'Toole, 2005; Ghoshal, 2005; Mintzberg, 2004; Pfeffer & Fong, 2002) and HRD (Gilley, 2006; Short et al., 2009; Woodall, 2006) clearly see the promotion of promoting use-inspired research as the future direction of research. Our review of the OD literature also supports the growing concern of bridging the gap between practice and theory development (Austin & Bartunek, 2006; Porras & Robertson, 1987; Van de Ven & Poole, 1995).

Implications for Human Performance Technology

What does this discussion of theory-building efforts and the convergence theme in HR fields mean to the field of HPT? Despite Jacobs's (1988, 1989) early critique of the lack of theory development in HPT, few attempts have been made to place theory building as a core research agenda in the field. Rummler (2007) expressed this concern succinctly:

Almost all the advances in instructional design and performance analysis methodology came from consulting practitioners solving client problems. The resulting reality is that these players were always

trying to build a personal brand—trying to distinguish themselves from each other in the marketplace: performance analysis versus performance audit versus front-end analysis; human performance system, behavioral engineering model, analyzing performance problems. These were different configurations of the same variables influencing behavior and performance. (p. 9)

Theory building is the general process of gathering facts and then proposing new explanations for their relationships (Jacobs, 1989). Lynham (2000) noted that theory building is important to develop multiple and inclusive research methods to advance a field. For an applied field to grow and gain recognition, advancing science (i.e., theory and research) and technology (i.e., process and conceptual tools, design, and evaluation) is crucial (Merrill & Wilson, 2007). In other words, good theory is practical because it advances knowledge in a field, guides research toward crucial questions, and enlightens the profession through evidence-based practices (Van de Ven, 1989). The use-based research we emphasized in this study is clearly aligned with that direction (Tushman & O'Reilly, 2007; Woodall, 2006).

Lynham (2002) stated that the process of theory building should move through the phases of concept development, operationalization, confirmation or disconfirmation, and application in a recursive manner, and this can be done either deductively (from theorizing to practice) or inductively (from practice to theorizing). Torraco (2004) reviewed strengths and weaknesses of various research methods commonly used for deductive theory building (e.g., Dubin's hypothetico-deductive quantitative approach and meta-analytic theory building) as well as inductive theory building (e.g., grounded theory, case study research, and social constructionist research). He emphasized that the main purpose of research (e.g., theory testing or concept development) should determine the use of research methods. In addition, scholars suggested the use of developmental research (Richey & Klein, 2005) and design-based research (Wang & Hannafin, 2005) to improve the quality and accountability of work through continuous cycles of theory-based design, implementation, analysis, and redesign.

For HPT to advance and be considered as a relevant HR field, adhering to sound research practice is important. More needs to be done than positioning itself as a strategic partner of organizations. To pursue this urgent endeavor, examining how other (and probably more established) HR fields have evolved at the beginning, diverged to different areas of focus, and converged over time maintaining theory development research efforts, and, most important, how and where HPT fits or complements HR fields can be a first step. More details on the origins and growth of each field reviewed in this study are found for HRM (Agarwal & Hoetker, 2007; Colquitt & Zapata-Phelan, 2007; Podsakoff, MacKenzie, Podsakoff, & Bachrach, 2008), HRD (Hatcher, 2009; Kuchinke, 2007a; Swanson & Holton, 2009), OD (Gallos, 2006; Loveridge, Willman, & Deery, 2009), and HPT (Ferond, 2006; Rummler, 2007; Stolovitch, 2007).

HPT's relevance to HRM and OD has been asserted by many scholars, but its relationship with HRD has not been discussed as much. Rosenberg, Coscarelli, and Hutchison (1999) stated that HPT uses core concepts and principles from behavioral psychology, instructional systems design, OD, and HRM. Huglin (2009) added systems and communications theory as relevant cognate fields agreed on by leading scholars of HPT. Swanson and Holton (2009) identified systems theory, psychology, and economics as core foundations of HRD, and McLagan's (1989, 1996) work clearly showed that training development, OD, and career development are the core of HRD (to be combined with HRM to comprise the entire HR wheel). Therefore, conceptual relevance between HRD and HPT is clearly seen in the literature.

> **For HPT to advance and be considered as a relevant HR field, adhering to sound research practice is important.**

We strongly believe that the performance improvement process has learning at its foundation because learning enables performance (through newly obtained skills, knowledge, and attitude) and performance builds up learning through prior knowledge, mental models, and confidence (Brinkerhoff, 2005; Kuchinke, 1998). The concept of learning in organizations (Brown & Duguid, 1991; Esterby-Smith, 2000; Marsick, 2009; Nemanich, Banks, & Vera, 2009; Reynolds, 2009; Senge, 1990; Tushman et al., 2007) marries the idea of workplace learning and performance (Rothwell & Sullivan, 2005) by balancing the two separate but complementary approaches to impact and effectiveness in organizations.

Added emphasis on learning enables HPT professionals to selectively apply behavioral, cognitive or psychological, and social, situated, and interactional views of human learning and interactions (Driscoll, 2005), which will lead to human performance improvement. Huglin's (2009) citation analysis within HPT also found that psychology was the most frequently identified subject category of journals cited, followed by business, education, and sociology. This is not to say that learning is more important than performance. Learning is a mature topic of research and practice that has been established in core cognates, such as psychology, management, education, and sociology, whose theoretical and research frameworks are inseparable from human performance.

An important topic for theory building in HPT is the relationship of learning and performance in organizations that has long been a common theme in HR fields: improving organizational performance through human resources. Particularly, learning in organizations has not been paid enough attention in HPT. Several reasons for HPT's bias toward performance are possible:

- The field began its positioning as emphasizing performance improvement as opposed to individual learning-based training.
- Learning is equated to training in terms of individual knowledge acquisition and development, which do not necessarily lead to organizational performance.

- The founding fathers of the field (e.g., Thomas Gilbert) were strongly influenced by Skinner's behaviorism and systems theory to emphasize observable and controllable behaviors for performance improvement models.

However, HR fields have identified the central role of learning for enhancing individual development, team effectiveness, leadership, innovation, and competitive advantage (Torraco, 2000). A recent study of citation network analysis of four primary HRD journals (*Human Resource Development Quarterly, Human Resource Development International, Advances in Developing Human Resources,* and *Human Resource Development Review*) evidenced that the primary focus in the field involves the learning and performance approaches (Jo, Jeung, Yoon, & Park, 2009). A similar approach to two journals, *Performance Improvement Quarterly* and *Performance Improvement*, might deliver meaningful results on the relationship between learning and performance in the field because as Price (1970) counseled researchers: "If you want to make [your] field firm and tight and hard and crystalline you have to play with your peers and keep on the ball by citing their recent work" (p. 856). The importance of the academic community in the field also resonated in Moody and Light's (2006) saying: "In a field without strong boundaries, scientists are faced with two challenges: finding an audience and filling a niche" (p. 83).

> An important topic for theory building in HPT is the relationship of learning and performance in organizations that has long been a core theme in HR fields.

In line with all levels of analysis, HR fields have weighed research on organizational learning and learning organization constructs and variables to realize organizational performance and effectiveness (Edmonson, Dillon, & Roloff, 2008; Gallos, 2006; Watkins & Marsick, 2003). HPT's efforts at theory building on separate but complementary foci, workplace learning and performance, can enrich observable behavior-focused and performance improvement models (which are limited) to explain the complex and multifaceted nature of organizational life.

Pfeffer (1993) showed that the level of a field's theory development has a number of substantively important effects. He strongly argues that more highly developed fields fare better in the context of resource allocations. Such theory development efforts in HPT as the exploration of the origins and growth of HPT and workplace learning and performance in organizations through the lens of other HR fields' perspectives, as well as citation network analysis of the major journals in the field, will set the foundation for the field's role as a recognized HR field as well as strategic partners in the organization and will lead to better positioning in resource allocation. In this context, we conclude with the pointed remark of Elinor Ostrom, the 2009 Nobel laureate in economic sciences, on the future direction of the social sciences: "Narrow disciplinary boundaries limit our science's progress" (Ostrom, 2009).

References

Addison, R. M., & Haig, C. (2006). The performance architect's essential guide to the performance technology landscape. *Performance Improvement*, *45*(10), 38–47.

Adler, N. J., & Harzing, A.-W. (2009). When knowledge wins: Transcending the sense and nonsense of academic rankings. *Academy of Management Learning and Education*, *8*, 72–95.

Agarwal, R., & Hoetker, G. (2007). A Faustian bargain? The growth of management and its relationship with related disciplines. *Academy of Management Journal*, *50*, 1304–1322.

Ardichvili, A., & Kuchinke, K. P. (2002). The concept of culture in international and comparative HRD research: Methodological problems and possible solutions. *Human Resource Development Review*, *1*, 145–166.

Argyris, C. (1977). Double loop learning in organizations. *Harvard Business Review*, *55*(5), 115–125.

Argyris, C. (1991). Teaching smart people how to learn. *Harvard Business Review*, *69*(3), 99–109.

Armstrong, S. J., & Fukami, C. V. (2009). Past, present and future perspectives of management learning, education and development. In S. J. Armstrong & C. V. Fukami (Eds.), *The SAGE handbook of management learning, education and development* (pp. 1–22). Thousand Oaks, CA: Sage.

Austin, J. R., & Bartunek, J. M. (2006). Theories and practices of organizational development. In J. V. Gallos (Ed.), *Organization development* (pp. 89–128). San Francisco: Jossey-Bass.

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten year retrospective on the resource-based view. *Journal of Management*, *27*, 643–650.

Becker, B. E., & Huselid, M. A. (2006). Strategic human resources management: Where do we go from here? *Journal of Management*, *32*, 898–925.

Becker, B. E., Huselid, M. A., & Ulrich, D. (2001). *The HR scorecard*. Boston: Harvard Business School Press.

Bennis, W. G., & O'Toole, J. (2005). How business schools lost their way. *Harvard Business Review*, *83*(5), 96–104.

Brinkerhoff, R. O. (2005). The success case method: A strategic evaluation approach to increasing the value and effect of training. *Advanced in Developing Human Resources*, *7*, 86–101.

Brockbank, W. (1999). If HR were really strategically proactive: Present and future directions in HR's contribution to competitive advantage. *Human Resource Management*, *38*(4), 337–352.

Brown, J. S., & Duguid, P. (1991). Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. *Organization Science*, *2*(1), 40–57.

Burgelman, R. A. (1991). Intraorganizational ecology of strategy making and organizational adaption: Theory and field research. *Organization Science*, *2*, 239–262.

Chakravarthy, B. S., & Lorange, P. (1991). *Managing the strategy process*. Upper Saddle River, NJ: Prentice Hall.

Coghlan, D., & Brannick, T. (2005). *Doing action research in your own organization* (2nd ed.). Thousand Oaks, CA: Sage.

Colquitt, J. A., & Zapata-Phelan, C. P. (2007). Trends in theory building and theory testing: A five-decade study of the *Academy of Management Journal*. *Academy of Management Journal*, *50*, 1281–1303.

Cooperrider, D. L., & Srivastva, S. (1987). Appreciative inquiry in organizational life. *Research in Organizational Change and Development*, *1*, 129–169.

Davenport, T., & Prusak, L. (1998). *Working knowledge: How organizations manage what they know*. Boston: Harvard Business School Press.

Dean, P. L., & Ripley, D. E. (Eds.). (1997). *Performance improvement pathfinders*. Washington, DC: International Society for Performance Improvement.

Driscoll, M. P., (2005). *Psychology of learning for instruction* (3rd ed.). Boston: Allyn & Bacon.

Drucker, P. (1999). *Management challenges for the 21st century*. New York: HarperCollins.

Edmonson, A. C., Dillon, J. R., & Roloff, K. S. (2008). Three perspectives on team learning. *Academy of Management Annals*, *1*(1), 269–314.

Egan, T. M., Yang, B., & Bartlett, K. R. (2004). The effects of organizational learning culture and job satisfaction on motivation to transfer learning and turnover intention. *Human Resource Development Quarterly*, *15*, 279–301.

Esterby-Smith, M. (2000). Organizational learning: Debates past, present and future. *Journal of Management Studies*, *37*(6), 783–796.

Ferond, C. (2006). The origins and evolution of human performance technology. In J. A. Pershing (Ed.), *Handbook of human performance technology* (pp. 155–187). San Francisco: Jossey-Bass/Pfeiffer.

Foshay, W. R., Moller, L., Schwen, T. M., Kalman, H. K., & Haney, D. S. (1999). Research in human performance technology. In H. D. Stolovich & E. I. Keeps (Eds.), *Handbook of human performance technology* (2nd ed., pp. 895–915). San Francisco: Jossey-Bass/Pfeiffer.

Gallos, J. V. (Ed.). (2006). *Organization development*. San Francisco: Jossey-Bass.

Garavan, T. N., McGuire, D., & O'Donnell, D. (2004). Exploring human resource development: A level of analysis approach. *Human Resource Development Review*, *3*, 417–441.

Gephart, M. A., Marsick, V. J., Van Buren, M. E., & Spiro, M. S. (1996). Learning organizations come alive. *Training and Development*, *50*(12), 35–45.

Gherardi, S. (2006). *Organizational knowledge: The texture of workplace learning*. Malden, MA: Blackwell.

Ghoshal, S. (2005). Bad management theories are destroying good management practices. *Academy of Management Learning and Education*, *4*, 75–91.

Gilbert, T. (1996). *Human competence: Engineering worthy performance* (Tribute ed.). Washington, DC: ISPI.

Gilley, J. W. (2006). Research: The bridge between human resource development practitioners and scholars. *Human Resource Development Quarterly*, *17*, 235–243.

Grieves, J. (2000). Introduction: The origins of organization development. *Journal of Management Development*, *19*, 345–447.

Hardre, P. L. (2003). Beyond two decades of motivation: A review of the research and practice in instructional design and human performance technology. *Human Resource Development Review*, *2*, 54–81.

Harless, J. H. (1973). An analysis of front-end analysis. *Improving Human Performance*, *4*, 229–244.

Hatcher, T. (2009). Twenty years ago today: Celebration, history, and *Human Resource Development Quarterly*. *Human Resource Development Quarterly*, *20*, 1–18.

Holton, E. F., III (2002). Theoretical assumptions underlying the performance paradigm of human resource development. *Human Resource Development International*, *5*, 199–215.

Huglin, L. M. (2009). HPT roots and branches: Analyzing over 45 years of the field's own citations. *Part 1: Journal citations. Performance Improvement Quarterly*, *2*(4), 95–115.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, *38*, 635–672.

Jacobs, R. L. (1988). A proposed domain of human performance technology: Implications for theory and practice. *Performance Improvement Quarterly*, *1*(2), 2–12.

Jacobs, R. L. (1989). Systems theory applied to human resource development. In D. Gradous (Ed.), *Systems theory applied to human resource development* (pp. 27–60). Alexandria, VA: ASTD Press.

Jo, S. J., Jeung, C.-W., Yoon, H. J., & Park, S. (2009). Analysis of the citation network among articles in AHRD journals: HRDQ, HRDI, ADHR, and HRDR. *Human Resource Development Quarterly*, *20*(4), 503–537.

Johnsen, L. V., Huglin, L. M., & Marker, A. (2008). Primary sources of cognate research in human performance technology. *Performance Improvement Quarterly*, *21*(10), 7–16.

Kimberly, J., & Miles, R. (1980). *The organizational life cycle*. San Francisco: Jossey-Bass.

Klein, J. D. (2002). Empirical research on performance improvement. *Performance Improvement Quarterly*, *15*(1), 99–110.

Korpiaho, K., Päiviö, H., & Räsänen, K. (2007). Anglo-American forms of management education. *Scandinavian Journal of Management*, *23*, 36–65.

Kuchinke, K. P. (1998). Moving beyond the dualism of performance versus learning. *Human Resource Development Quarterly*, *9*, 377–384.

Kuchinke, K. P. (2007a). HRDI at ten! *Human Resource Development International*, *10*, 1–4.

Kuchinke, K. P. (2007b). Response to May and Bowman: Human resource development—Multiparadigmatic, multidisciplinary, open-ended, and complex. *Human Resource Development Review*, *6*, 136–141.

Langdon, D. G., Whiteside, K. S., & McKenna, M. M. (Eds.). (1999). *Intervention resource guide: Fifty performance improvement tools*. San Francisco: Jossey-Bass/Pfeiffer.

Lau, C.-M. (2002). Asian management research. *Asia Pacific Journal of Management*, *19*(2/3), 171–178.

Loveridge, R., Willman, P., & Deery, S. (2009). Sixty years of Human Relations. *Human Relations*, *60*, 1873–1888.

Lynham, S. A. (2000). Theory building in the human resource development profession. *Human Resource Development Quarterly*, *11*, 159–178.

Lynham, S. A. (2002). The general method of theory-building research in applied disciplines. *Advances in Developing Human Resources*, *4*(3), 221–241.

Marker, A., Huglin, L., & Johnsen, L. (2006). Empirical research on performance improvement. *Performance Improvement Quarterly*, *19*(4), 7–22.

Marsick, V. J. (2009). Toward a unifying framework to support informal learning theory, research and practice. *Journal of Workplace Learning*, *21*(4), 265–275.

McLagan, P. A. (1989). Models for HRD practice. *Training and Development Journal*, *43*(9), 49–59.

McLagan, P. A. (1996). Great ideas revisited: Creating the future of HRD. *Training and Development*, *50*(1), 60–65.

McLean, G. N., & McLean, L. (2001). If we can't define HRD in one country, how can we define it in an international context? *Human Resource Development International*, *4*, 313–326.

Medsker, K., Hunter, P., Stepich, D., Rowland, G., & Basnet, K. (1995). HPT in academic curricula: Survey results. *Performance Improvement Quarterly*, *8*(4), 6–21.

Merrill, M. D., & Wilson, B. (2007). The future of instructional design. In R. A. Reiser & J. V. Dempsey (Eds.), *Trends and issues in instructional design and technology* (2nd ed., pp. 335–351). Upper Saddle River, NJ: Pearson.

Mintzberg, H. (2004). *Managers not MBAs*. San Francisco: Berrett-Koehler.

Molenda, M., & Pershing, J. A. (2008). Improving performance. In A. Januszewski & M. Molenda (Eds.), *Educational technology* (pp. 49–80). Mahwah, NJ: Erlbaum.

Moody, J., & Light, R. (2006). A view from above: The evolving sociological landscape. *American Sociologist*, *37*(2), 67–86.

Neal, M. A., & Northcraft, G. B. (1991). Behavioral negotiation theory. In I. I. Cummings & B. M. Staw (Eds.), *Research in organizational behavior* (pp. 147–190). Greenwich, CT: JAI Press.

Nemanich, L., Banks, M., & Vera, D. (2009). Enhancing knowledge transfer in classroom versus online settings: The interplay among instructor, student, content, and context. *Decision Science Journal of Innovative Education*, *7*, 123–148.

Noe, R. A. (2008). *Employee training and development* (4th ed.). New York: McGraw-Hill.

Nonaka, I., & Takeuchi, H. (1995). *The knowledge creating company: How Japanese companies create the dynamic of innovation*. New York: Oxford University Press.

Ostrom, E. (2009, November 23). *A general framework for analyzing sustainability of social-ecological systems*. Paper presented at the School of Library Information Science's Networks and Complex Systems Talk, Indiana University, Bloomington.

Palmer, D. (2006). Taking stock of the criteria we use to evaluate one another's work: *ASQ* 50 years out. *Administrative Science Quarterly,51*, 535–559.

Pershing, J. (2006). Human performance technology fundamentals. In J. A. Pershing (Ed.), *Handbook of human performance technology* (3rd ed., pp. 5–34). San Francisco: Jossey-Bass/Pfeiffer.

Pershing, J. A., Lee, J., & Cheng, J. (2008). Current status, future trends, and issues in human performance technology, part 2: Models, influential disciplines, and research and development. *Performance Improvement*, *47*(2), 7–15.

Pfeffer, J. (1993). Barriers to the advance of organizational science: Paradigm development as a dependent variable. *Academy of Management Review*, *18*, 599–620.

Pfeffer, J., & Fong, C. T. (2002). The end of business schools? *Academy of Management Learning and Education*, *1*, 78–95.

Pfeffer, J., & Sutton, R. I. (2006). Evidence-based management. *Harvard Business Review*, *84*(1), 63–74.

Podsakoff, P. M., MacKenzie, S. B., Podsakoff, N. P., & Bachrach, D. G. (2008). Scholarly influence in the field of management. *Journal of Management*, *34*, 641–720.

Porras, J. I., & Robertson, P. J. (1987). Organization development theory: A typology and evaluation. *Research in Organizational Change and Development*, *1*, 1–57.

Price, D. J. de S. (1970). Citation measures of hard science, soft science, technology, and nonscience. In C. E. Nelson & D. K. Pollock (Eds.), *Communication among scientists and engineers* (pp. 3–22). Lanham, MD: Lexington Books.

Reynolds, M. (2009). Reflections on experiential learning. *Management Learning*, *40*(4), 387–392.

Richey, R. C., & Klein, J. D. (2005). Developmental research methods: Creating knowledge from instructional design and development practice. *Journal of Computing in Higher Education*, *16*(2), 23–38.

Rosenberg, M. J., Coscarelli, W. C., & Hutchison, C. S. (1999). The origins and evolution of the field. In H. D. Stolovitch & E. J. Keeps (Eds.), *Handbook of human performance technology* (2nd ed, pp 24–46). San Francisco: Jossey-Bass/Pfeiffer.

Rossett, A. (2009). *First things fast: A handbook for performance analysis* (2nd ed.). San Francisco: Jossey-Bass/Pfeiffer.

Rothwell, W. J., & Sullivan, R. (2005). Organization development. In W. J. Rothwell & R. Sullivan (Eds.), *Practicing organization development* (2nd ed., pp. 9–38). San Francisco: Jossey-Bass/Pfeiffer.

Rummler, G. A. (2007). The past is prologue: An eyewitness account of HPT. *Performance Improvement*, *46*(10), 5–9.

Rummler, G. A., & Brache, A. P. (1995). *Improving performance: How to manage the white space on the organizational chart* (2nd ed.). San Francisco: Jossey-Bass.

Ruona, W. E. A., & Gibson, S. K. (2004). The making of twenty-first-century HR: An analysis of the convergence of HRM, HRD, and OD. *Human Resource Management*, *43*, 49–66.

Rynes, S. (2007a). Tackling the ''great divide'' between research production and dissemination in human resource management. *Academy of Management Journal*, *50*, 985–986.

Rynes, S. (2007b). AMJ turns 50! Looking back and looking ahead. *Academy of Management Journal*, *50*, 1277–1279.

Schein, E. H. (1996). Kurt Lewin's change theory in the field and in the classroom. *Systems Practice and Action Research*, *9*(1), 27–47.

Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. New York: Currency.

Short, D. C., Keefer, J., & Stone, S. J. (2009). The link between research and practice: Experiences of HRD and other professions. *Advances in Developing Human Resources*, *11*, 420–437.

Stokes, D. E. (1997). *Pasteur's quadrant: Basic science and technological innovation*. Washington, DC: Brookings Institution.

Stolovitch, H. D. (2007). The development and evolution of human performance improve-
ment. In R. A. Reiser & L. V. Dempsey (Eds.), *Trends and issues in instructional design
and technology* (2nd ed. pp. 134–146). Upper Saddle River, NJ: Pearson.

Stolovitch, H. D., & Keeps, E. I. (Eds.). (1999). *Handbook of human performance technology*
(2nd ed.). San Francisco: Jossey-Bass/Pfeiffer.

Swanson, R. A. (2001). Human resource development and its underlying theory. *Human
Resource Development International*, *4*, 299–312.

Swanson, R. A., & Holton III, E. F. (2009). *Foundations of human resource development* (2nd
ed.). San Francisco: Berrett-Koehler.

Torraco, R. J. (2000). The relationship of learning and performance improvement at
different system levels. *Performance Improvement Quarterly*, *13*(1), 60–83.

Torraco, R. J. (2004). Challenges and choices for theoretical research in human resource
development. *Human Resource Development Quarterly*, *15*, 171–188.

Torraco, R. J. (2005). Writing integrative literature review: Guidelines and examples.
Human Resource Development Review, *4*, 356–367.

Tushman, M., & O'Reilly, C. (2007). Research and relevance: Implications of Pasteur's
quadrant for doctoral programs and faculty development. *Academy of Management
Journal*, *50*, 769–774.

Tushman, M. L., O'Reilly, C. A., Fenollosa, A., Kleinbaum, A. M., & McGrath, D. (2007).
Relevance and rigor: Executive education as a lever in shaping practice and research.
Academy of Management Learning and Education, *6*, 345–362.

Ulrich, D., & Brockbank, W. (2005). *The HR value proposition*. Boston: Harvard Business
School Press.

Van de Ven, A. H. (1989). Nothing is quite so practical as a good theory. *Academy of
Management Review*, *14*, 486–489.

Van de Ven, A. H., & Poole, M. S. (1995). Explaining development and change in
organizations. *Academy of Management Review*, *20*, 510–540.

Van Tiem, D. M., Moseley, J. L., & Dessinger, J. C. (2004). *Fundamentals of performance
technology* (2nd ed.). Silver Spring, MD: International Society for Performance
Improvement.

Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced
learning environments. *Educational Technology Research and Development*, *53*(4),
5–23.

Watkins, K. E., & Marsick, V. J. (2003). Demonstrating the value of an organization's learning
culture: The Dimensions of the Learning Organization Questionnaire. *Advances in
Developing Human Resources*, *5*, 132–151.

Weinberger, L. A. (1998). Commonly held theories of human resource development.
Human Resource Development International, *1*, 75–93.

Werner, J. M., & DeSimone, R. L. (2009). Organization development and change. In J. M.
Werner & R. L. DeSimone (Eds.), *Human resource development* (5th ed., pp. 462–500).
Mason, OH: Cengage.

White, S. (2002). Rigor and relevance in Asian management research. *Asia Pacific Journal of
Management*, *19*(2/3), 287–352.

Wile, D. (1996). Why doers do. *Performance and Instruction*, *35*(2), 30–35.

Woodall, J. (2001). HRDI special issue: Defining HRD. *Human Resource Development
International*, *4*, 287–290.

Woodall, J. (2006). HRD scholarship and methods of inquiry: Rigor and relevance. *Human
Resource Development International*, *9*, 301–303.

YONJOO CHO

Yonjoo Cho, PhD, is an assistant professor of instructional systems technology at Indiana University. She had previously worked as an HR professional for 13 years in South Korea in both business and academic sectors. She received her PhD degree from the University of Texas at Austin. Her research interest centers on action learning in organizations, based on her experience in working as an external facilitator in large companies in South Korea. Other research topics include HR convergence and HR practices in the IT industry. *Mailing address*: 201 North Rose Avenue, Bloomington, IN 47405. *E-mail*: choyonj@indiana.edu

SEUNG WON YOON

Seung Won Yoon, PhD, is associate professor of instructional design and technology at Western Illinois University. His research focuses on applying theories of learning, instruction, and information design to e-learning, blended learning, knowledge management, and human performance technology. *Mailing address*: Horrabin Hall 47, Macomb, IL 61455. *E-mail*: hrdswon@gmail.com