Human Performance Technology:

THE DAWN OF A NEW ERA

Fred Nickols

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This article asserts that Human Performance Technology, once at the end of an era, is now at the dawn of a new era. Essentially, it makes the case that the ability to engineer human performance needs to become a pervasive capability on the part of many, if not most employees, instead of remaining a craft practiced by a few specialists. In other words, every employee needs to become a performance engineer. Why? Because many, if not most employees, must now figure out what to do in response to the circumstances at hand instead of simply carrying out prefigured or "canned" routines.

End of an Era: A Redux

Twenty-two years ago I published an essay titled "Human Performance Technology: The End of an Era" (Nickols, 1990). In it I argued that the kinds of work and working activities that benefited most from applications of human performance technology (HPT) were rapidly disappearing, signaling the end of an era. I stand by my earlier arguments and will briefly revisit them in this essay but for the purpose of leading into and making the case for what I see as the dawn of a new era for HPT. Let us begin then with what I now refer to as "hammered in the middle."

Hammered in the Middle

Over the course of the century just past several monumental changes in the nature of work, working and the composition of the workforce took place. The first of these changes was the disappearance of the farmer. At the beginning of the last century, farmers made up 38 percent of the workforce. By the end of the century they accounted for less than three percent of the workforce. At the same time, the numbers of blue collar workers were also shrinking. In 1900, construction, mining and manufacturing accounted for almost half the workforce. By 1990, they accounted for only 20 percent of the workforce. Transportation workers decreased by two-thirds – from about 15 percent in 1900 to about five percent in 1990. On the other hand, the wholesale/retail segment of the workforce increased by about two-thirds – from about 15 percent to about 25 percent. However, the increase in this segment was almost entirely in the retail portion. Service workers tripled: increasing from roughly 10 percent of the workforce in 1900 to about 30 percent in 1990. Financial service workers also increased significantly – from two percent of the workforce in 1900 to about seven percent in 1990. Last, but not least, the percentage of government employees doubled, rising from about seven percent in 1900 to about 15 percent in 1990, with the vast majority of that growth occurring in local government, not the federal government.

What happened during the last century was largely the result of technology and economics. Thanks to technology, work shifted from a materials-base to an information-base. Some, most notably the late Peter Drucker, referred to this as a shift to knowledge work. It would be more accurate to refer to it as a shift from prefigured routines to configured responses. Instead of doing what someone else had figured out the work of many people now required them to figure out what to do. Economics, in particular, the economics of profits, also drove many changes, often hand-in-hand with technology. In the final 25 years of the last century, a great deal of materials-based work was mechanized. Similarly, a great deal of information-based work was automated. And, beginning in the last century and extending into this century, a great deal of work was sent off shore so as to take advantage of cheap labor. The net effect was to wipe out a great deal of work that used to be in the middle, leaving behind a large number of low-end jobs (e.g., food service, maintenance and landscape workers) and a smaller number of high-end jobs (e.g., researchers, technicians, managers and executives).

The upshot of all this is that when it comes to performance improvement, no one cares about the low end jobs. Replacements are easily and inexpensively obtained and management can rely on a "perform or else you're out the door" strategy. The performance of people in the middle can still be engineered but those jobs are fast disappearing and will continue to do so. And, for reasons I'm about to get into,

we can't engineer the performance of people in high-end jobs; they have to do it themselves. But, they are not performance technologists – they can't do what we do. Right now it would be very difficult for them to engineer their own performance. Therein lays an opportunity. Performance engineering must be woven into the fabric of every organization; it must become a pervasive and robust capability. We are precisely the ones to do just that. And that signals the dawn of a new era for HPT.

Before moving on, let's use Table 1 below to review and recap the changes that took place during the last century – what I view as a shift from the Industrial Era to Modern Times – and let's also use it to preview the nature of the opportunity I see as signaling the dawn of a new era.

Table 1: From the Industrial Era to Modern Times

Dimensions	The Nature of Work and Working	
	Industrial Era	Modern Times
Work-Base	Materials	Information
Locus of Interactions	People <> Materials	People <> People
Results & Feedback	Direct & Immediate	Indirect & Delayed
Behaviors of Interest	Overt, Physical	Covert, Verbal
Visibility of Working	High	Low
Workflow	Linear	Non-Linear
Working Activities	Prefigured	Configured
Focus of Control	Worker	Work
Locus of Control over Working	Management	Worker
Control Principle	Compliance	Contribution
Role of the Worker	Instrument	Agent
Standards	Fixed, External	Variable, Internal
Knowledge	Concentrated	Distributed
Management Style	Directive	Collaborative

Dawn of a New Era: A Preview

The more obvious changes make up most of the upper half of the table. As mentioned earlier, the base of work has shifted from materials to information. In turn, this shifts the locus of interactions – from people interacting with materials to people interacting with other people (and, of course, with information). Less obvious is that when working activities focus on interactions between people and materials, the results of those activities are direct and immediate. The reverse is true of interactions between people and between people and information; these are are often marked by results and feedback that indirect and delayed. Also obvious is that when work is materials-based, the visibility of working activities is high and when work is information-based, the visibility of working activities is low. When work is materials-based, workflow is of necessity linear in nature whereas workflow for information-based work is typically non-linear.

The crux of the shift, then, is that for materials-based work we can and do provide highly standardized materials, tools and working conditions. In addition, the working activities themselves can be and often are prefigured or specified in advance. *We* can engineer *their* performance. But, for information-based work, the information varies, the conditions are non-standard, the interactions vary, and the outcomes sought vary. Consequently, the working activities have to be configured in response to the circumstances at hand. This shift from prefigured to configured working activities is full of import for those who would manage work and working and for those, like us, who claim to be able to improve performance.

One of the more important implications of the shift from prefigured to configured working activities is that it brought with it a requirement to shift the focus of control from the worker to the work itself. Activities produce results or outcomes. When work was materials-based and working consisted of the visible behaviors of the worker, managerial control understandably focused on the worker's behaviors. Control of worker behavior equaled control of the results of working. Just as important, the locus of control rested with management. The underlying principle was compliance on the part of the worker with those prefigured routines that had been worked out in advance, typically by an industrial engineer. In this context, the role of the worker was as an instrument, an extension of managerial will. Standards were fixed and externally developed and imposed. Knowledge was concentrated in the hands of a few and the basic management style was directive.

The shift to configured working activities changes all that. When working activities are essentially invisible, the focus of control must shift from activities to results or outcomes, what Thomas Gilbert called "accomplishments." In other words, the focus of control must be on the work, not the worker. Because working activities must be configured, and because the worker must do the configuring, the locus of control over working activities has shifted from management to the worker. Under these circumstances, the principle of managerial control must shift from ensuring compliance to eliciting contributions from the worker. There is also a much-needed corresponding shift in the role of the worker; namely, from an instrument or extension of managerial will to that of a largely autonomous agent acting on behalf of the employer and in the employer's best interests. The standards that matter

are variable and internal and knowledge is now widely dispersed; indeed, in many cases, only the workers possess the required knowledge. It is literally impossible to supervise such workers. *They* must engineer their own performance. Perhaps most important, the basic style of management must shift from directive and go beyond participative; it must become collaborative.

As Peter Drucker (1973) pointed out in relation to what he called "the knowledge worker":

> "No one can direct him. He has to direct himself. He is the guardian of his own standards, of his own performance, and of his own objectives."

To close out this section of this commentary, let me point to the central issue that has been raised. In a word, it is "control" – the control of work, of working activities and, ultimately, of performance, both individual and organizational. For in the end, organizations don't do anything – only people do – and if organizations are to perform at all, their people must perform first. If, as I am arguing, the locus of control over working has shifted from management to the worker, then the worker has an even more central and critical role to play in the performance of the organization. For that reason alone management should be genuinely and intensely interested in how to help people engineer their own performance because the path to organizational performance passes through the realm of individual performance.

New Models and New Approaches

To capitalize on the opportunity that now faces us will require new models and new approaches. In this portion of this commentary I will touch on two models that illustrate the kinds of differences we must acknowledge and address. Both have to do with the central issue of control.

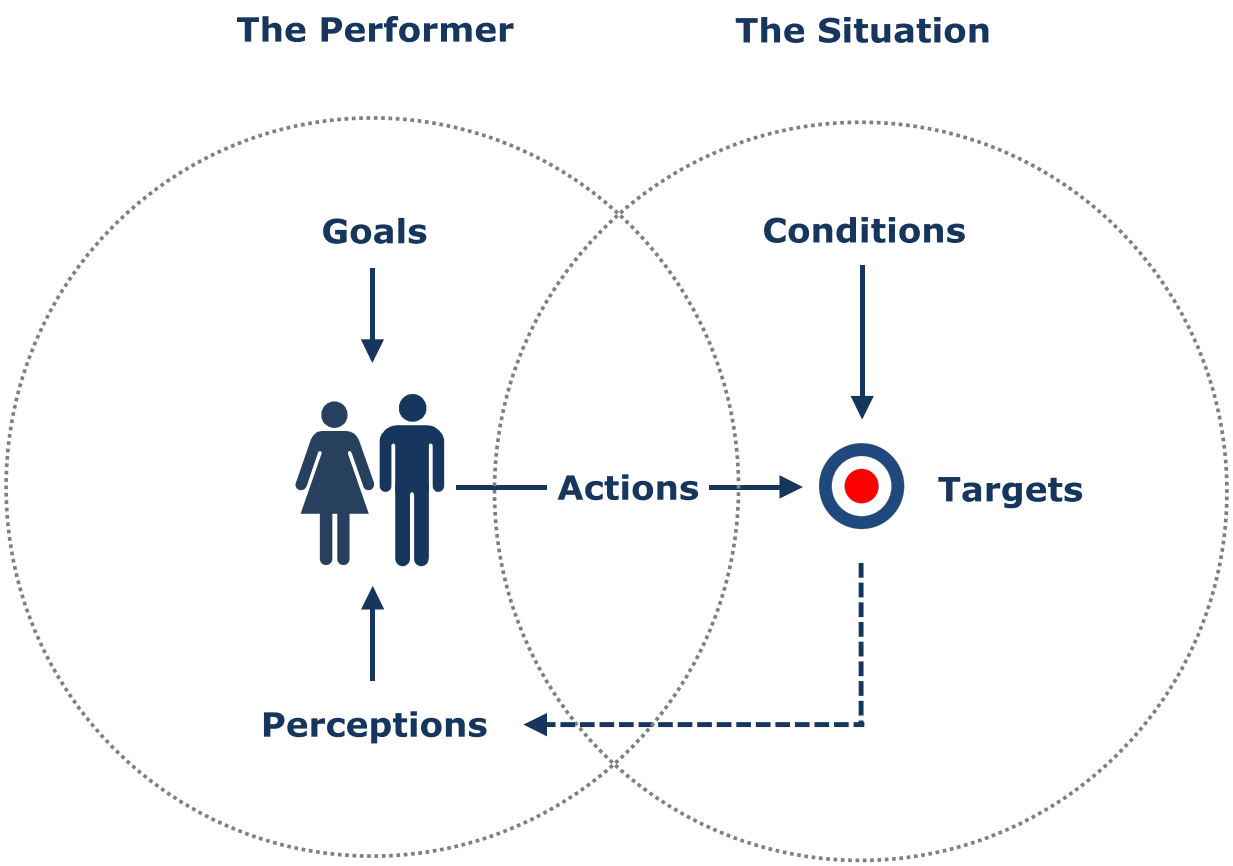
Our models of human behavior and performance in the workplace must come to grips with the fact that human beings are purposeful beings. They are not simple, stimulus-response organisms. They have, they set, and they achieve goals. Moreover, they overcome obstacles and counter disturbances in the course of doing so. They act so as to control their environment, they don't simply respond to it. They are able to target certain aspects of the world around them and then act in ways that bring those targeted variables to desired states and, equally important, maintain them in those states despite the influences of other actors and factors. We need to recognize that a configured response is not a conditioned response. More often than not a configured response is a unique response to unique circumstances and so behavior must vary in order to bring a targeted variable to some specified state and keep it there.

In my own practice, I have adopted the Target Model of Human Behavior and Performance (see Figure 1).

The Target Model is not my raw creation; it is my adaptation of William T. Powers' "Perceptual Control Theory (PCT)," a theory that depicts people as "living control systems" (Powers, 1989; 1992). It is these "living control systems" that must engineer their own performance and helping them do that is not furthered by using models that depict people as compliant,

conditioned beings, capable of being manipulated at will by anyone able to exercise adequate control over supposed *reinforcers*. That view of people is a product of the industrial era and it is wholly unsuited to managing and improving the performance of people who must configure their responses to the circumstances at hand. So, if your model(s) of human behavior and performance don't accommodate purpose, intentions, goals, adaptation and feedback in the true sense of that word, perhaps you should revisit and reflect upon them in light of the new world of work and working that now confronts us all.

Figure 1: The Target Model of Human Behavior & Performance



I have presented and elaborated upon the Target Model elsewhere (Nickols, 2010, 2011) and will not repeat that exercise here. The interested reader is referred to those earlier publications.

To return to the opportunity at hand, allow me to once again quote the late Peter Drucker (1973):

> "Knowledge work, therefore, needs far better design precisely because it cannot be designed for the worker. It can be designed only by the worker."

Or, as I said earlier, "*They* must engineer their own performance." We have left behind the age of compliance and have entered upon a new era – the era of contribution. This requires not just configured responses to the circumstances at hand but carefully designed, engineered and executed responses. HPT needs to be moved out of the realm of specialists and consultants and into the hands of the workers who must now design their own work and engineer their own performance. That is the opportunity now facing HPT and its practitioners and, as I said earlier, that ushers in the dawn of a new era for HPT and HPTers.

The new era being ushered in will be marked by an expansion of our field, by an increase in the number of practitioners and in the numbers of organizations making use of HPT. However, it also signals a shift in the practice of HPT. Instead of relying on internal staff and external consultants to deliver consulting services based on HPT, I foresee the practice shifting to the delivery of training in and support systems for HPT. In other words, HPT must be embedded in the organization, woven into its fabric so to speak. Those high-end workers who must configure their responses to the circumstances at hand must be able to engineer their own performance; they must be able to apply the methods, principles, techniques and tools of HPT to their work. Moreover, because their work is marked by very little in the way of repetition, they must be able to do so over and over again. What will become repetitive about their work is their use of HPT to engineer their own performance.

We in ISPI, then, will become teachers, trainers, tutors, coaches and mentors. The value we deliver to our clients won't consist of this or that performance we can point to and claim we have improved; instead, the value we deliver will be measured in terms of the improvements people are able to make in their own performance. That will be the hallmark of the new era.

Closing Comment

There are lots of ways I could close out this commentary, but I choose one I think is somewhat humorous and more than a little bit ironic. We in ISPI (and elsewhere) have for many years now hammered on the point that training is rarely the solution. Just in case you've missed it, let me make it perfectly clear: In this new era I see dawning, training *is* the solution.

References

Drucker, P.F. (1973). *Management: Tasks, responsibilities, practices*. Harper & Row: New York.

Nickols, F.W. (1990, Summer). Human performance technology: The end of an era. *Human Resources Development Quarterly, 1*(2), 187-197. San Francisco, CA: Jossey-Bass.

Nickols, F.W. (2010, September), A model for helping people hit their performance targets. *Performance Improvement, 49*(8), 21-26. San Francisco, CA: ISPI/Wiley.

Nickols, F.W. (2011, February). Manage your own performance: No one else can." *Performance Improvement, 50*(2), 31-35. San Francisco, CA: ISPI/Wiley.

Powers, W.T. (1989). *Living control systems: Selected papers of William T.* Powers. New Canaan, CT: Benchmark Publications.

Powers, W.T. (1992). *Living control systems II: Selected papers*. New Canaan, CT: Benchmark Publications.

About the Author

Fred Nickols is a long-time contributor to ISPI publications and he has been affiliated with ISPI in its various incarnations since the early 1970s. He is the managing partner of Distance Consulting and a former Navyman, consultant, and executive. He has been following and pondering what Peter Drucker called "the shift to knowledge work" for more than 40 years. Fred maintains a web site at www.nickols.us and his more than 100 papers, articles and book chapters can be freely accessed there.