Performance Technology, Performance Support, and the Future of Training: A Commentary

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ABSTRACT

How close is the relationship between performance technology, performance support, and training? Very close, actually. Both performance technology and electronic performance support (EPS) have their roots in education and training, but in many ways they have transcended their beginnings and have evolved beyond where training leaves off. This commentary offers a performance technologist's view of EPS and suggests not only that a performance technology perspective is a requirement for the development of EPS, but that involvement in building and implementing an EPS can help people shift their paradigm from training to performance. Implications for the education and training field now and in the future are also proposed.

Although much of the roots of electronic performance support (EPS) can be traced back to the field of education and training, EPS's greatest potential is associated with its unique ability to solve business, not educational, problems. This doesn't mean that learning is not a result of interactions with EPS, it's just that in this new paradigm, performance rather than learning is the direct goal. The design of EPS requires not just a "tilt" in educational thinking but a fundamental rethinking of the relationship between learning and performance.

Likewise, much of the roots of performance technology (PT) lie in the education and training field. But like EPS, performance technology thrives when focused on business rather than educational problems. "Thinking like a performance technologist" requires a fundamental change in perspective about the boundaries within which solutions to problems may be drawn.

In many ways, performance support would not be possible without the parallel development of the performance technology paradigm, which requires a broader perspective about what is possible in improving human performance. To be a performance technologist is to see a multitude of possible ways to solve a performance problem or realize a performance improvement opportunity. Yet among all of these possible solutions, EPS, with its ability to integrate resources and accommodate complexity, has emerged as one with such great potential that we have yet to fully understand the impact it will have on people, organizations, and society. To employ EPS is to see new ways to impact the work people do in an increasingly complex and computerized world, to redesign jobs and processes to improve quality, to make

products and services smarter and more obvious to all, and to allow individuals and teams to have more confidence in their abilities and their value.

Let's examine performance support and performance technology more closely to see why EPS and PT were made for each other.

Paradigm Shift

As previously discussed, both performance support and performance technology require a fundamental shift in thinking. It is a difficult shift to make. Many educators, locked in a linear model, and perhaps a "culture" that focuses on learning as an end and instruction as a means, have had a difficult time with the frame of reference shift that EPS represents. Many have done little more than create computer-based training that "computerizes" the basic instructional model. The addition of multimedia elements and other technological innovations may improve learning, but the paradigm remains unchanged. Those who have been able to see potential in EPS have also embraced its basic premise, that it is possible, and often desirable, to enhance performance without necessarily promoting learning, to create expertise without necessarily creating an expert. This is, clearly, a performance technology perspective. Thus, it is unlikely that one can fully support EPS without being a performance technologist, and equally unlikely that a performance technologist would not value the potential of EPS.

Common Ground

Just as there are skills associated with the practice of PT, including performance analysis, systems thinking, job design, and process management and evaluation, there are skills associated with the development of EPS. These skills range from the many technical capabilities that are needed to actually build a performance support system, to the ability to manage the complex projects and people associated with an EPS development and implementation effort. Interestingly, however, many EPS developers have recognized that the fundamental PT skills are also their *core* skills.

The linkage is more than philosophical. It is worth noting that highly technical EPS designer/practitioners and others within an organization (e.g., project managers, line managers, business leaders) with only the core skills in common, can have deep and mutually beneficial conversations about a performance problem since they both share the PT perspective. This perspective has been instrumental in moving discussion about EPS from the back office functional areas, such as training and information systems, to the front-line executive conference room, where both the pain and the sponsorship lies. It is why in just a few years EPS has drawn more attention than the past twenty years of computer-based training.

The New Frontier

Today's organizations are going through profound change. The pressures of competition, the need to innovate faster, and the global requirement for mass customization in products and all aspects of customer care have put a great deal of strain on people. Add permanent job restructuring and downsizing to the mix and

you have a huge problem: How to improve worker performance in a more complex and ever-changing environment, while the actual numbers and costs of that workforce must be reduced.

Performance technologists, or those who think and behave like performance technologists, are helping to deal with this most critical competitive issue. They look at their world in terms of identified performance problems or opportunities, which can be expressed as the difference (or gap) between where an organization's workforce is, and where it needs to be in order to achieve its mission and satisfy its customers. They are quick to note that their playing field encompasses the entire organization, not just one part, such as the classroom. To close a performance gap, they feel empowered to look not only at the learning needs of people, but at the way they work, the tools they use, the feedback they get, and so forth. While their focus is always on the performers, they tend to see their customers (or sponsors) as the organization in which the performers work. For performance technologists, organizational change is an essential route to productivity, cost reduction, and quality.

As a specific technological innovation, EPS is becoming an essential tool in organizational change. In almost every example of successful business process reengineering, EPS has been a major factor in helping workers become more productive. As businesses streamline and develop flatter organizational structures, EPS is used to improve the efficiency of work processes. As jobs become less defined and more flexible, EPS is used to provide the broader array of real-time expertise and information necessary to manage increasingly complex work. As process replaces structure as the essential linkage between groups, EPS helps people understand and monitor their performance in the evolving "virtual" organization (which transcends time and space). And, as organizations become increasingly reliant on their growing technology infrastructure, EPS provides the mechanism through which people can access the benefits of the technology without being engulfed by it.

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In designing EPSs that work, performance technologists have been key contributors. First, they help the organization understand critical performance gaps or opportunities and help determine if EPS is an appropriate vehicle to address the gap. Naturally, not all performance issues should be addressed by EPS, and the performance technology perspective prevents this from happening. If an EPS can help an organization im-

prove the performance of its people in a particular business area, the performance technologist becomes a key player in its design, contributing expertise (or leading a team of experts) that provides support in determining job tasks or functions that should be supported, understanding the needs of the diverse populations who will use the EPS, helping to integrate the EPS into the work routines of its users, linking the EPS to other support functions such as helplines and documentation, evaluating its effectiveness, and, of course, working with trainers to build any required learning components into the system.

Where Does All This Leave Education and Training?

Just as reengineering is helping organizations rethink and redesign the way they work, the development of electronic performance support is a catalyst for the reengineering of performance development or improvement. In many ways, reengineering means to start over, to recognize that you can't get where you want to be through incremental, qualitative improvements alone. You have to think differently. Improving training and education has meant the design of more involving, interactive learning experiences, the better linking of training to work, and the use of technology (e.g., CBT) to improve the efficiency of learning. But the fundamental process, instruction, as a means to promote learning and improve performance, remains the same. This is not reengineering.

EPS was developed by people looking for ways to impact performance directly, without the intermediate steps involved in instruction. They wanted to enable performance in the context of work. They wanted to obliterate the line between learning and work so that, in reality, learning is work, and work is learning. The goal of EPS is not competence that resides in the individual, but rather performance that resides in the situation. For problems that may be attacked through EPS, the concepts of "students, courses, curricula and instruction" have little meaning.

EPS represents, and requires, a reengineering point-of-view. It is not the same thing as training and should not be viewed as such. But it is perfectly in line with the concepts of performance technology in that it focuses on ends, such as productivity and competence, rather than on means, such as skill and knowledge. This creates a strong bond between EPS developers and performance technologists, and has left trainers wondering how they fit in.

Over the past few years, many trainers, instructional technologists, course developers, systems designers and others have made the leap, the paradigm shift, to Performance Technology. Some have done so directly, and found the value of EPS on the other side, while others embraced EPS technology and through that experience developed their Performance Technology perspective. Either way, this is a positive step for the education and training field.

Those of us who find our paradigms shifting from training to performance also see other significant trends in the field. We see an integration of information and learning, and gain an understanding that knowledge may sometimes be more effectively and efficiently delivered—as a knowledge database, via a message box generated by software, through

content embedded in an interface, as content developed during computer supported collaborative work (groupware), or as an on-line document—than through instruction. We see an integration of knowledge and support within applications software. We see ways to drastically shorten the cycle time, to enable high performance by balancing the knowledge and expertise we give our people with the knowledge and expertise we give our systems and tools. We see opportunities to support people's needs for flexibility and quick response to dynamically changing information, and learning that mirrors the dynamically changing work environment. These are some of the major issues that spawned electronic performance support, and they are the same issues that will drive changes in education and training.

No matter how advanced electronic performance support becomes, it will still be an approach to be used by knowledgeable, thoughtful people. Its importance will expand as more work becomes computer-mediated and more knowledgebases become available on line. It is not appropriate to say that EPS will eliminate the need for education and training, for there will always be a need for new knowledge and continuous learning. But using EPS instead of training for disseminating facts and proceedures frees up training resourses for more sophisticated efforts in areas like decision-making, relationship building, creativity, leadership, group learning and a hundred more areas that are better suited to the strengths of the educational model.

For education and training people, the challenge is to make the distinctions between a particular set of performance requirements that are better served by an instructional approach, an EPS approach, a combination of the two, or perhaps something else. Those who can make this distinction need not be concerned about becoming performance technologists—they are already there.

Looking to the Future

It's important to remember that electronic performance support was not developed by the software or computer industries, but by performance technologists. To look at EPS as "just software" is to misunderstand its intent and the important linkage it has to improving human performance. Rather, EPS is more like powerful electronic job aids or coaching systems, reflective of the focus on people, rather than machines, that is the foundation of performance technology. And when EPSs are integrated with data, tools, and knowledgebases, they are more like supportive work contexts than applications software.

As the Performance Technology perspective becomes a dominating paradigm, we will be able to leverage a host of new solutions to create and maintain a high-performing workforce. One of those new solutions is electronic performance support. The impact of EPS can be expected to grow dramatically in the coming years, from the support of internal business processes, to the creation of truly and inherently easy-to-use products and services.

Ultimately, the future of Performance Technology and electronic performance support is the same. They will be integrated directly into the key processes of an organization, including sales, engineering, product

development, information systems, manufacturing, and many others. The best measure of success for this vision may be the same one that many people have for the quality movement, that PT and EPS will disappear as separate processes and tools, and be absorbed directly into the business mainstream.

Author's Note. Nothing in this article should be construed to represent the views or policy of AT&T Corp.

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