Technology Domains and NSPI

A Proposed Framework for Organizing the Professional Content of NSPI

Geary A. Rummler

In my presentation to the 1982 NSPI Conference, I stated that:

I would like to recommend that NSPI’s driving force be “technologies.” Perhaps NSPI becomes a federation of technologies dedicated to instruction, performance, and human competence (and a dash of love, of course), with technology chairpersons (in contrast to special interest sub-groups or “tracks”).

I felt some uneasiness after my comments because time did not allow me to follow up my critical remarks about NSPI with some substantive recommendation. My professional credo is “put up or shut up,” and since I did not choose to “shut up,” I felt compelled, in the intervening time, to “put up.” In this article I propose a way for NSPI to look at what it stands for and what it is and isn’t (or might be or might not be).

This is a proposed framework for viewing and organizing the professional content of NSPI. The examples of content (and their proposed relationships) used herein are not exhaustive—just illustrative. If a framework such as I propose makes sense to the leadership of NSPI, no doubt a task force could be formed to identify and organize the relevant content areas.

If NSPI committed itself to the objective of “improved performance/effectiveness of individuals,” there are three major variables that can be/must be manipulated to achieve that objective (Figure 1).

I. Changes in the individual’s repertoire (through instruction or whatever change method is utilized)
II. Support of the individual in the work/performance environment (i.e., job aids)
III. Changes in the work/performance environment (changes in the environment component of the human performance system such as clarification of expectations, consequences, feedback, stimulus clarification, and resources).

NSPI’s general domain would be these three major types of interventions.

There are a number of ways the change process can be depicted, but for sake of argument, I suggest we look at it as having the basic steps shown in Figure 2. This process holds, regardless of the particular intervention or combination of interventions one might make to effect performance.

If NSPI is concerned with three basic interventions (Figure 1) and if it acknowledges a universal change process (Figure 2), then it is possible to identify some technologies or technology domains relevant to the stated objective of improved performance/effectiveness of individuals. And further, it is possible to show the relevance of each technology domain, which is made up of sub-components such as job/task analysis, behavioral analysis, and so on. (I want to stress that I’m not proposing that the four technology domains shown here—needs analysis, instructional design and development, performance engineering, and evaluation—are the technology domains for NSPI; only that such domains and their sub-components could be identified by NSPI.)

Once the technology domains are identified, it would then be possible to identify subjects or research areas relevant (or potentially relevant) to the technology domains. For example, “left brain—right brain” research is a potentially important input to learning theory and learner physiology, which in turn are important to various components of the instructional design and development technology domain, which is utilized to change the repertoire of the individual.

Figure 3 is the essence of my proposal—a framework for showing the relevance and relationships of possible technologies, subject matter, and research topics. The remaining figures represent possible applications of the framework.

Figure 4 is a different configuration of the content of Figure 3, illustrating the relationship of research areas, technology domains, and performance variables to the proposed NSPI objective, the improved performance/effectiveness of individuals.

The matrix in Figure 5 represents a possible way to relate technologies to subject matter or research areas. For example, research in learning theory, behavior modification, and organization behavior (to name only a few) is relevant to organization performance analysis. And learning theory is relevant to organization performance analysis, instructional systems design, material design and development, and so on.

This matrix is a possible way to organize and describe the NSPI conference program. Topics are classified by track (again, these tracks are illustrative, although I was hard-pressed to come up with any more), and their relationship to
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3. As a conceptual map of the field for:
   a. newcomers
   b. practitioners
   c. managers of training who have come to their responsibilities with no idea of the disciplines/technologies they are supposed to manage

4. As a basis for organizing the conference programs and Journal content and communicating the relationship of said programs and content to the populations mentioned above.

Figures 3-6 Continued on pages 34–36.

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Figure 3. Change Process, Related (Possible) Performance/Instruction Technology Domains, and Relevant Research Areas
Figure 4. Proposed Relationship Between Performance Objective and Performance Variables, Technology Domains, and Research Areas

<table>
<thead>
<tr>
<th>TECHNOLOGY DOMAINS</th>
<th>RELEVANT SUBJECT MATTER/RESEARCH AREAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Analysis</td>
<td>Societal</td>
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<tr>
<td>Organization Performance</td>
<td>X</td>
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<tr>
<td>Job/Task</td>
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<tr>
<td>Behavioral</td>
<td></td>
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<tr>
<td>Subject Matter</td>
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<tr>
<td>Individual Entry Level</td>
<td></td>
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<tr>
<td>Instructional Design &amp; Development</td>
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<tr>
<td>Instructional System Design</td>
<td>X</td>
</tr>
<tr>
<td>Material Design &amp; Development</td>
<td>X</td>
</tr>
<tr>
<td>Job Aid Design &amp; Development</td>
<td>X</td>
</tr>
<tr>
<td>Media Design &amp; Development</td>
<td>X</td>
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<tr>
<td>Test Design &amp; Development</td>
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<td>Delivery System Design &amp; Development</td>
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<td>Performance Engineering</td>
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<td>Organization Design &amp; Implementation</td>
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<td>Job Design &amp; Implementation</td>
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<td>Feedback System Design &amp; Implementation</td>
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<td>Consequence System Design &amp; Implementation</td>
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<td>Management System Design &amp; Implementation</td>
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<tr>
<td>Evaluation</td>
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</tbody>
</table>

Figure 5. Technology—Research Area Matrix
Figure 6. Relating Conference Topics to Technology Domains

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PERFORMANCE & INSTRUCTION JOURNAL/OCTOBER 1983

36