

A Summary and Exposition of ISPI's Performance Technology Standards

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Overview

The International Society for Performance Improvement (ISPI) has developed a set of ten performance standards for improving and measuring training outcomes. The Performance Technology Standards apply systems theory to the development of training processes and employee (or student) performance. Performance can include knowledge, skills, and behaviors, but the emphasis tends to be on measurable behaviors or outcomes. Learning *how* is emphasized over learning *that*. Hence, the term *performance*.

The focus on the learning universe as a system rather than a set of independently generated and applied products means that the standards represent something of a holistic, 360-degree view of instructional design. The teacher-material-learner relationship is, of course, important, but so is the culture or institutional climate, various constraints (time and budget, for example), and even the politics of interacting stakeholders.

The first four standards emphasize the focus on the systems approach itself, encouraging designers to be intentional about including the whole context of the proposed instruction or training. The last six standards present one of the several variations of the systems analysis process, useful for improving everything from computers to farming to instructional design. (For another variation on the use of systems analysis in the development of instruction, see the ADDIE model, also known as the Instructional Systems Design Model, promoted especially by the American Society for Training and Development.)

Standard 1: Focus on Outcomes

Standard 1 provides an opportunity to begin thinking about just what you want the training or teaching to accomplish. Pertinent questions include:

- What do you want changed?
- What do you want to achieve?
- How will the learner be different after training?

- How will you know that what you want has been changed or achieved?

This last question is critical, and it reminds us that instructional objectives should be expressed in measurable terms. If you cannot measure the change (an improvement toward the goal, we hope), it is difficult to argue that the change has really occurred. Performance technologists therefore tend to frown on objectives stated in terms that are difficult to measure, such as these:

- The student will learn about radios.
- The student will understand customer service concepts.
- The student will know more about legal requirements for sales.

Instead, active verbs that describe measurable performance are to be used:

- The student will be able to identify the parts of the landing gear.
- The student will be able to follow the customer complaint decision tree.
- The student will distinguish between qualified and unqualified applicants.

Ideally, a performance outcome should include three components:

1. What will be assessed or measured?
2. How well must the student perform to be successful?
3. How fast must the task be performed?

Thus, the three components are the performance (the what), the quality level or goal (how well), and the time frame (how fast). Example statements based on this model:

- The student will be able to explain the function of 20 randomly chosen parts of the refrigerator with 80% accuracy within ten minutes.
- The student will be able to fill out the loan qualification form with 90% accuracy within fifteen minutes.
- The student will be able to call his classroom students by name with 75% accuracy within one week.
- The student will be able to diagnose the cause of the system failure with 80% accuracy within one hour.

The *how fast* criterion is a measure of fluency. The idea is that the more thoroughly the trainee knows the material or the skill, the faster it can be performed or the knowledge called to mind.

Standard 2: Take a Systems View

This standard calls on the instructional designer (or performance technologist) to sit back and consider the larger environment and its influence on the training

process. Consider a holistic or organic view of the organization, where all the parts are interactive and interdependent. Think about some of these larger questions:

- Does the corporate or organizational culture support (or inhibit) the desired outcomes?
- How do the corporate mission statement, goals, and de facto operating methods impact the outcome goals?
- What are the supporting factors? (These might include budget, management buy-in, learning organization culture, etc.)
- What are the constraints? (These might include abrupt time frames, shortage of personnel, lack of cooperation by needed experts, etc.)
- How will the proposed outcomes affect the larger organization?

Suppose, for example, that your outcomes will drive the organization to emphasize a strict adherence to the regulations of a voluntary corporate membership (such as an accounting or business organization), while some in the corporate culture view such adherence as needless. How will you negotiate this conflict?

Standard 3: Add Value

This standard probably came, in part, from the concern of training departments everywhere, that because they don't contribute to measurable ROI (return on investment), they are undervalued (and the first to be cut when the bugs hit the windshield). So, part of this standard tells the designer to show how the training solution will add value to the company. (Fewer injuries, fewer lawsuits, less repeated work to correct errors, more capable workers, and such.)

But the standard also supplies some information about the structuring of the performance training, deriving in part from both systems theory and creative problem solving techniques. Steps to include:

- Develop multiple possible solution pathways for the desired outcomes so that the costs, benefits, tradeoffs, and risks (CBTR) of each can be compared. Allowing management to see choices and a view of CBTR enhances the buy-in and makes the solution more acceptable.
 - Which solution is easier to implement?
 - Which is easier to measure?
 - Which is more likely to produce the desired outcomes?
- Show why your recommendation is the better or the best choice.
- Identify the assumptions, especially the faulty ones, underlying each solution possibility.

- What needs to be changed in order to adopt each proposed solution? (Technology, corporate culture, management attitudes, employee incentives?)

Standard 4: Work in Partnership

This standard reminds the technologist that both knowledge and decision making should be viewed in collaborative terms. Work collaboratively with knowledge experts (Subject Matter Experts or SMEs), and find and use the holders of tacit knowledge. Much of the know how in an organization exists in the minds of its employees rather than in a paper or electronic document.

Similarly, share decision making about goals and priorities. Management and trainees should provide input. Establish relationships with all stakeholders, everybody involved. Learn to manage resistance (an inevitable byproduct of all change) by listening, informing, and negotiating.

Standard 5: Needs Analysis

As mentioned in the Overview, these next six standards develop one model of the systems analysis process. The ISPI model divides analysis into two standards, but is otherwise very similar to many other models.¹

There are many possible types of analysis (such as learner, task, process, learning channel), but all of them ask similar questions:

- What is the current situation? (What have you got?)
- What needs to be added, deleted, or changed? (What do you want?)
- What is necessary to make the changes? (How can you get what you want?) (What inputs, outputs, behaviors, resources are needed?)
- How well do current activities meet their goals?
- How well does the feedback loop work?

In traditional systems analysis as applied to computer systems, there is always the idea that some of what is currently the state of things is still to be continued. That is, some of what we've got we want to keep. Some we want to improve, some to junk, and some to develop from scratch.

Choose the type of analysis (task, process), a plan for doing it, and the analysis tools (surveys, interviews, historical data).

¹ Compare the ADDIE model (analysis, design, development, implementation, evaluation) and a standard problem-solving model (explore the problem, establish goals, generate ideas, choose a solution, implement the solution, evaluate the solution).

Standard 6: Cause Analysis

Assuming that the needs analysis discovers some things you need, cause analysis simply asks why.

- Why is there a gap between what you've got and what you want?

This is a critical question because the answer will point you toward a solution. Is the cause of the gap

- lack of knowledge or skill in employees? (caused by high turnover?)
- corporate culture? (forget quality and meet the quota?)
- a process or system? (fill out all seventeen forms in triplicate?)
- inadequate or wrong performance measures? (what feedback loop?)

An accurate cause analysis will help you answer the Big Question: Is there an instructional/training/performance solution to the problem?

Standard 7: Design

The design of the performance training should include several possible solutions, as mentioned above, each with a clearly articulated set of CBTRs (costs, benefits, tradeoffs, and risks). The following items are useful in a design:

- Performance activities. What will be required and measured?
- Performance criteria. What level of performance will be expected?
- Solution process. What components will be included? Stand up training, reference manuals, job aids, Web sites, videos, forms, group work?
- Evaluation systems. How will you assess the training? What kind of feedback? Tests, surveys, oral reports, demonstrations?

This is a good time to use some project management ideas, if they haven't already been used in the analysis phases. Knowing how much time and what resources are available will make the design phase not only much smoother but more realistic. Don't propose a dozen three-hour videos if your development time frame is two weeks.

Standard 8: Development

This standard covers the creation of the elements as designed in the previous step.

- Divide and coordinate the development tasks.
- Assure that the materials developed follow the design.
- Test the materials in a pilot or informal process.

Remember that development is something of an iterative process even at the start. Test the Web links, make sure the PowerPoint slides match the learner's guide, check the answers on the quizzes, fill out and check the workbook exercises.

Standard 9: Implementation

Design an implementation process for rolling out the new performance training.

- Pilot. A selected group is chosen to try out the training to make sure it achieves its proposed goals. Feedback is used to tweak as necessary.
- Parallel. While the new training is rolled out, the old training is continued, duplicating material. Parallel implementation got started with computer systems and works there. However, for training it is likely to be confusing, wasteful, and redundant. And if the new material is different (new legislation, new company policy, etc.) parallel makes no sense.
- Cut over. The old training system is dropped and the new one implemented on a given date. Often cut over is implemented regionally or departmentally. ("On July 1, the Western region will start the new training. On October 1, the Southern region." And so on.)
- Stepped. With the stepped method, some parts of the new training are implemented while some parts of the old are continued. This works only if the new and old are compatible in some way.

Considerations for implementation:

- Use the techniques of change management to encourage buy-in to the new training.
- Respond to resistance with listening, information, and persuasion.
- Sell the new system for its superior benefits to the trainees and the organization.
- Train the trainers.

Standard 10: Evaluation

The importance of evaluation cannot be emphasized too often because it is so often neglected. It's the "Got results?" question that needs to be answered. Here, measurement methods are applied to the desired outcomes.

- Did the training work? (Compare the outcomes achieved with the outcome goals)
- How well did it work? (To what degree, how thoroughly, how efficiently?)
- Is revision or change or tweaking needed to meet the goals of the training?

Types of evaluation include:

- Formative. The training is evaluated during the design and development process and while it is in progress. If two thirds of the class is asleep during the second demonstration, formative evaluation should raise the flag.
- Summative. The training is evaluated at the end to see how successful it was. Final performance demonstrations (like taking a solo flight or a driving test) show the results.
- Confirmative. The training continues to be evaluated on an ongoing basis. (Does it still work for new hires? Does the person trained six months ago still know how to use every screen in the software?)

Conclusion

The area of adult learning theory and instructional design grew out of a recognition that “getting a bunch of handouts together” or “talking to the group about the subject for awhile” did not translate into effective training. The ISPI standards described here serve as an encouragement to take a deliberate look at what you want your learners to know – and more specifically, do – as a result of their instructional experience.

This article is indebted to “ISPI’s Performance Technology Standards,” International Society for Performance Improvement, Silver Spring, MD: 2002. www.ispi.org.

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