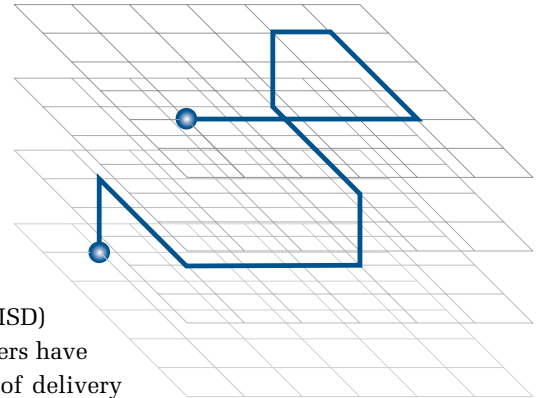# Matching the Method To the Message: Strategies for Instruction

by Stephen L. Cohen, PhD

Ever since instructional systems design (ISD) became a course of study, program developers have had to think through just which methods of delivery best match the specific messages they need to deliver. Today more than ever before, instructional designers must pay closer attention to this responsibility. With the relatively fast adoption of online learning added to the mix and the continued advance of technology-delivered learning options, we must be even more certain that we are leveraging the most appropriate delivery tools and techniques to achieve the chosen learning objectives and outcomes. Furthermore, with the relatively new advent of blended learning solutions, it appears even more critical that we truly understand how best to mix the media with the message to deliver optimal results.

While there have been a number of attempts over the years to create a systematic instructional strategy (e.g. Gagne, 1974; Gagne & Briggs, 1979; O'Neill, 1978; Andrews & Goodson, 1980; Tracey, Flynn, & Legere, 1970; Van Patten, Chao, & Reigeluth, 1986; Jonassen, Grabinger, & Harris, 1991), to date, however, no single instructional strategy framework, or even a consistent nomenclature to assist the instructional developer to think through which learning solutions best optimize which learning strategies, has been presented. The purpose of this article is to advocate such a framework that can be used to address this need. The intent of this framework, however, is more to provide a point of view that can serve as a starting place for continued dialogue on the subject than it is to offer a definitive stake in the ground as a final statement of fact.

Foremost among the reasons for honing in more precisely on this topic is the continued attempt to make training systems and learning strategies pay off. Given the relatively recent, yet apparently permanent elevation of human resource development (HRD) to the strategic level, it is neither a surprise nor inappropriate that HRD professionals be held accountable for real business results. To the extent that well-conceived instructional strategies can improve the likelihood of capturing a return on investment, these professionals will not only continue to elevate the prominence of the profession but, more importantly, add critical value to organizational performance. Creating a framework that can assist the design and development of learning solutions that drive business results can only enhance the worth of ISD as a value-added contributor to organizational performance.

A Strategic Framework for Instruction

In putting together a strategic framework for instruction, six major categories common to ISD are used. These are instructional approach, learner role, learning objective, intended outcome, expected behavior, and instructional methods. As can be noted in Figure 1, the four instructional approaches drive the linkages to the other categories below them.
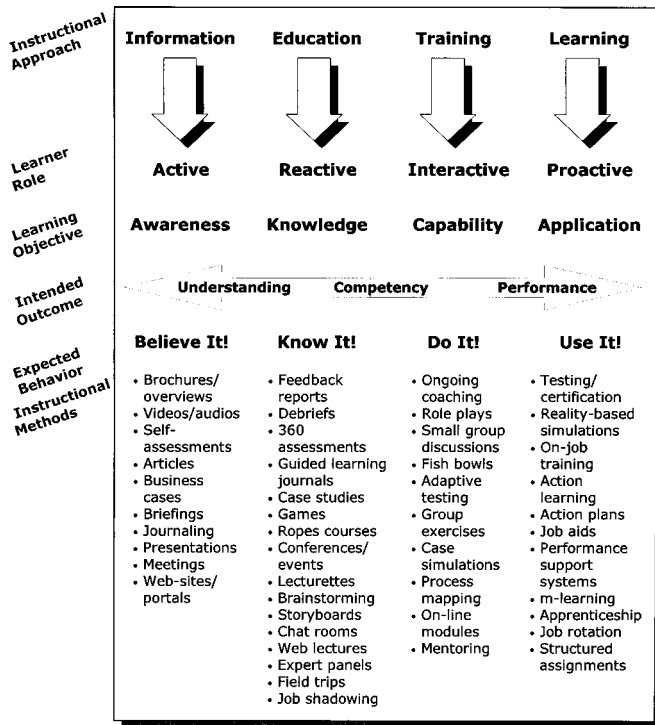
Instructional Approach	Information	Education	Training	Learning
	⬇	⬇	⬇	⬇
Learner Role	Active	Reactive	Interactive	Proactive
Learning Objective	Awareness	Knowledge	Capability	Application
Intended Outcome	Understanding	Competency		Performance
Expected Behavior	Believe It!	Know It!	Do It!	Use It!
Instructional Methods	• Brochures/ overviews • Videos/audios • Self-assessments • Articles • Business cases • Briefings • Journaling • Presentations • Meetings • Web-sites/ portals	• Feedback reports • Debriefs • 360 assessments • Guided learning journals • Case studies • Games • Ropes courses • Conferences/ events • Lecturettes • Brainstorming • Storyboards • Chat rooms • Web lectures • Expert panels • Field trips • Job shadowing	• Ongoing coaching • Role plays • Small group discussions • Fish bowls • Adaptive testing • Group exercises • Case simulations • Process mapping • On-line modules • Mentoring	• Testing/ certification • Reality-based simulations • On-job training • Action learning • Action plans • Job aids • Performance support systems • m-learning • Apprenticeship • Job rotation • Structured assignments

Figure 1. Strategies for Instruction.

Instructional Approach

The overall instructional approach is the most critical category in that it sets the stage for defining the framework. The four offered here purposely imply that there is an embedded continuum, left to right, over which real learning takes place. They represent a building-block model, from information to education to training and finally to learning. Each approach supports the success of the next. Identifying the specific instructional approach is the most logical place to start in the framework, because each approach defines its own overall intent of the instruction, frames the intended purpose of the intervention, and drives the delineation of the remaining categories.

While presented as distinct entities, the borders of each of these four general instructional approaches are at best gray and sometimes bleed into each other. They help to frame, at a very high level, the exact intended instructional outcomes. Most important, each has its appropriate instructional place and role, and is neither more nor less important

than the others. It just depends on what you want to achieve with one approach versus another.

Information. This approach generally involves one-way communication, for which there are one or more senders and receivers of information. Thus, it requires recipients to play a relatively active role in both accepting and absorbing that which is pushed their way. Reading materials, such as informational brochures or websites, provide the best examples of this approach. Its overall intent is to provide someone with data and facts, typically from a primary source. Usually, the information presented does not require very much interpretation, because it is largely fact based. However, this does not mean that all recipients comprehend or interpret the information similarly. They are left to their own devices to draw whatever conclusions they believe to be true.

Education. This approach usually involves two-way communication, in more of a give-and-take manner in which the most favorable circumstances result in a true dialogue, either one to one or one to many. It allows and encourages feedback. The learner's role is more reactive in that it requires a response to information to fully understand the message, thus involving the exploration of concepts, constructs, and content. This is how most people become formally educated through the Socratic method. Our traditional classroom experience represents this approach, with an instructor acting as both the primary conveyor of the information and fielder of questions about that information. Often, its overall intent is focused on communicating higher level data and information that might require more full digestion via discourse than just ingestion.

Training. For purposes of this article, training refers to something that someone does to someone else. This situation is most characterized by a systematic, often premeditated, and sometimes even contrived setup of procedures, principles, and rules through which an instructor helps the learner acquire a new capability. Training might incorporate activities such as role plays or case simulations. Usually, training is most associated with skill acquisition in that the specific instructional methods incorporate focus on helping people perform better at what they are doing. However, pure training usually occurs in a relative vacuum, in that it is often contained within a very structured and confined situation designed to achieve very specific results. The role of the learner is much more interactive, involving iterative responses to even higher level information sources, typically skill development. Training, as we are describing it, typically will occur out of the job context per se, although approximations and simulations of the job are characteristic methods of how some training may take place.

Learning. To differentiate learning from training, we will define true learning as something that one does to oneself.

That is, people learn by doing several things:

- absorbing critical ideas and information, while perhaps simultaneously discarding outdated ones
- experimenting with what the ideas and information mean in the context of outward behavior
- practicing these behaviors by either bouncing them off others or actually demonstrating them
- internalizing them so that they become everyday occurrences.

True learning occurs when the learners' role is proactive in their inquiries, their practices, and eventually their applications of their new insights, skills, and capabilities. While it can be argued that for training to be effective, learning has to occur, we will assume a broader view of learning in that we really never know someone has actually learned something until they consistently demonstrate or apply the new capability in their real-world job environment.

Ever since instructional systems design (ISD) became a course of study, program developers have had to think through just which methods of delivery best match the specific messages they need to deliver.

Each of these four instructional approaches is associated with its respective and specific learning objectives and intended outcomes. Again, even though the lines between them are gray at best, they provide a similar framework in which they build on each other from left to right. Once the overall approaches have been determined, and their respective learning objectives and intended outcomes defined, we must then seek actual evidence of their demonstration through the observation of learner behaviors. What follows is an explanation of these three areas and how they are linked.

Learning Objective

By learning objective we mean what learners are expected to achieve. It is not the result, which is the outcome, but more what we set out to do: the instructional goal of the approach. We have associated each with its most likely approach, starting with awareness, then knowledge, then capability, and finally application.

Awareness. If the instructional approach simply involves conveying information, however complex, then the usual learning objective is awareness of what is being conveyed.

This could be anything from an orientation on a topic to a new procedure or policy. The same goal is that we want to alert people to this information. Whether they acknowledge it or not can be built into a feedback system. Typically, this type of information is provided so that learners can frequently access it and, if they so choose, acknowledge that they have received it. For example, if someone wants to get a driver's license, the awareness learning objective would be to learn the appropriate information on the steps needed to be taken to apply for one.

Knowledge. Absorbing knowledge is different than simply becoming aware of some new information. Knowledge implies that the information has been assimilated and has changed the way one sees something or understands its implications at a deeper level. At its extreme, it suggests a new wisdom that gives a person a different perspective. It often requires higher-level mental processing fed by frequent discourse and fueled by a desire to probe and explore the boundaries of the present information set. It usually requires a more involving experience, at least cognitively, for its full effects to be felt. The knowledge objective in the driving example would be to learn the rules of the road to get the driver's license by taking a test to demonstrate an understanding of the basics of driving.

Capability. Acquiring the capability to do something new or to change the way one behaves typically calls into play multiple mental, motor, and even emotional elements, and often simultaneously. Thus, it is a relatively complex process. For an instructional objective, then, designers must be particularly careful to embed tools and techniques that force the learner to interact with a number of relevant stimuli by being immersed in the learning experience. Even at that, demonstrating a capability in a relatively safe haven training environment does not automatically ensure that these new sets of thoughts and behaviors will be applied in the context of the actual job situation. To continue our driving example, demonstrating capability would involve practicing starting, turning, using the dashboard symbols, parking, and so on. This is typically done with an instructor in a driver's education course.

Application. At the end of the day, most would argue that we are primarily interested in giving learners the ability to improve their performance on their jobs. That is, our objective is to take them from where they currently are to where they need to be to contribute to the overall productivity and performance of their organization. As noted earlier, to accomplish this objective requires more than simply creating a structured learning environment, no matter how well designed and developed. It requires, perhaps above all, proactive learner participation at an almost feverishly high level of involvement in the experience itself. It also requires an interest in and intention of raising the standard of performance beyond what the learners are currently able to demonstrate. Learning something in a structured training

environment is one thing; applying what one has learned to the real-world job environment is quite another. If the instructional objective is the latter, then opportunities for practice, feedback, demonstration, and yet more feedback must be embedded in the learning process itself. To achieve the learning objective of the application, the learner must participate actively. Proactive participation can be enhanced through a capable facilitator, and enabled when built into the instructional design itself. Finally, the application objective would be met by taking and passing the driver's road test to become a licensed driver, and thus demonstrating the ability to drive safely on real streets.

Intended Outcome

Intended outcomes are different from objectives in that they define the expected result. That is, they describe specifically what it is that we want the learners to know, do, or believe differently than they are able to currently, and perhaps most importantly, for what end. The key here is that outcomes require demonstration to assess whether they have been achieved.

The continuum in this case, understanding to competency to performance, is literally a series of gradations, not always as clearly delineated from one intended outcome to the next. But it starts with a demonstrated understanding at one end and finishes with a demonstrated performance at the other. In between is a competency that, when called upon to be performed, on or off the job, would provide ample evidence that the requisite knowledge, skills, and attitudes necessary at the desired level can be demonstrated. By demonstrated we mean having empirical evidence that the outcome has been obtained. This naturally demands that measures, or suitably relevant metrics, have been constructed that permit such an evaluation.

In addition, these three intended outcome levels build on one another interdependently in the sense that it is hard to imagine demonstrated performance without the competency necessary to perform, and the understanding required to be competent. In our driving example, the learning outcome is relatively easy to determine with the already built-in metrics of driving without incident.

Expected Behavior

To demonstrate the outcomes above, whether they are an understanding, a competency, or specific performance, we must possess observable evidence of their presence. At one end of the behavior continuum, related to the outcome of understanding, we would see more cognitive or mental behaviors, such as reading comprehension or accurate calculations. At the other end, closer to the performance outcomes, we would see more physical or motor performance, from assembling a piece of equipment to actually selling to a customer.
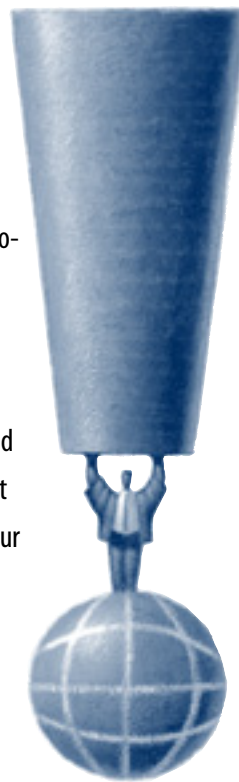
Competency demonstration usually requires some of both. But in any case, we need to employ methods that permit a ready and accurate assessment of behavior as it is occurring.

Having said this, while it is relatively easy to observe someone outwardly doing something or using a certain skill or knowledge, how can we ever really be sure if someone believes or knows anything? Certainly, we can observe the application of those beliefs and knowledge by what a person does on the job. We also have the luxury of testing, or asking for a demonstration of these. Again, testing is only an intermediate barometer of acquired beliefs and knowledge in that unless effectively applied on the job we can never really be certain that these are present as desired for effective performance. So the ultimate measure of the acquisition of a knowledge, skill, or attitude and belief is at the point we can discern whether people actually use them when performing their job.

Instructional Methods

Assuming the above components of this instructional strategy framework are reasonably true, or at a minimum have experientially face validity, what implications do they have for how we select and craft instructional methods appropriately matched with the learning objectives, intended outcomes, and expected behaviors? What methods will make the most sense, work the best, and be most well received by the learner, thus ultimately delivering the type of results organizations expect from their learning initiatives?

If it were a simple formula, we would have had much greater success in demonstrating consistent return on investment for our learning interventions. But it isn't. And it isn't because there are many factors that influence the overall effectiveness of a learning intervention that go far beyond simply matching learning methods with intended messages: the degree of learner preferences and style, organizational readiness, management support, internal and external business conditions, reinforcement and incentives, alignment with internal HRD systems, and so on. All can have a significant impact on whether one or more learning methods will work as advertised.

The list goes on and on. Nonetheless, one thing is for sure: There is little to no chance of succeeding unless we as learning engineers see to it that the most relevant methodologies are matched with the expected performance outcomes.

The lists of learning methods provided under each of the four instructional approaches are not meant to be mutually exclusive or exhaustive. Instead, they are organized around the principles that have been articulated in this article. Surely we could alter any of them to incorporate elements that would move one from one column to another. So the intent here is not necessarily to pigeonhole methods, but rather to offer a reasonably acceptable taxonomy that

encourages us to think more circumspectly of how we choose or construct learning methods in the face of expected performance results. In other words, we need to think more strategically than merely selecting from a catalogue what games appear to be the most fun, what exercises seem to have the right amount of interaction, or even what tests look like they adequately address the subject matter.

And, of course, as stated earlier, this assessment applies to online learning experiences as much as it does to the more traditional classroom methodology. With the rising business case for e-learning, we must be extra careful not to simply employ a delivery technique because we think it might be less expensive, when it may not deliver on achieving the expected performance results on which our organizations are betting. Sure, half the cost and half the time are compelling arguments by themselves to warrant replacing classroom time with virtual time, but at what real cost? Certainly, if half the results are obtained, we'd be hard pressed to justify any learning method, electronic or otherwise. Hopefully, the days of electronic page turning as a substitute for classroom skill development are soon to be over as well. There is an appropriate role and place for all of these learning methods. It is our job, however, to assess which ones are most appropriate under which conditions.

Conclusion

Just a glance at the number of different instructional methods available should offer some pause for concern. First, do we truly understand the characteristics of each and how they can be appropriately used? Have we experienced them in their many forms and shapes? Second, are we thoroughly familiar with the pros and cons of each? Under what conditions do they tend to work the best and worst? Finally, when constructing a learning experience, do we really take the time to sort through which instructional approach we believe needs to be taken? Do we articulate the broad message that needs to be delivered, be it informational or skill based? Do we think about what performance outcomes we want to achieve? Do we consider the role the learner will be expected to take on? Do we take into account varied learner preferences and styles? Do we answer these questions before we select the particular learning methods we employ? Or do we tend to rely on those with which we have the most experience and are most comfortable?

Let's assume that we are serious about enabling the achievement of real business results in our HRD engagements. Then we must take the time to think more strategically about instruction and to analyze each learning situation to determine just which methods are likely to deliver the most value-added instructional results. Hopefully, the instructional strategies framework offered in this article will provide a reasonably simple and straightforward structure for adding value to how we think this through in the future.

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Correction: The article *E-Learning: Harnessing the Hype* by Stephen L. Cohen and Damian Payiatakis that appeared in the February 2002 issue of *PI* contained an incorrect statistic. The following bullet point on page 9 should have stated 325% and not 25% as indicated in the article. "The federal government anticipates increasing its e-learning spending by approximately 325%, from $200 million in 2000 to $850 million in 2001 (Input forecasts, 2001)."