Instructional systems design is not new, but it has been underestimated. Learning leaders should refresh their knowledge to avoid losing touch with its value.

From its beginning in World War II to the more contemporary and well-known ADDIE model as well as the more recent rise of the Internet to provide instruction, instructional systems design, or ISD, is a cornerstone of the learning and development field.

Whether conducting needs analyses, designing programs or measuring their effectiveness, this methodology is at the heart of designing instructional experiences that lead to knowledge acquisition and skill enhancement. However, as the pace of organizations has increased and technology has become more accessible, have we lost touch with the value ISD brings to learning?

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Forward Momentum

Modern instructional systems design traces its roots back to World War II, when educational psychologist Robert Gagné worked with the Army Air Corps to test and design materials to effectively train pilots. The world’s fate hung in the balance, the stakes were high and this educational innovation — which included the assessment, development and evaluation of soldiers — marked the beginning of the modern talent management system. Further, it informed the pedagogical approach to learning by promoting a systematic approach of analysis, design and evaluation.

B.F. Skinner’s research on behaviorism in the 1950s and 1960s advanced the learning field by introducing modular approaches to skill development, taught in smaller steps with regular checkpoints to provide feedback to the learner. Robert Mager’s 1962 publication, “Preparing Instructional Objectives,” added to the ISD process by establishing use of clear objectives to design instructional materials. Building upon Mager’s work, Benjamin Bloom developed a taxonomy of learning outcomes to define attainment of higher levels of knowledge, which led to development of learning evaluation processes such as pre- and post-assessment in conjunction with the use of criterion-referenced testing.

As the learning and development field advanced in the 1960s and 1970s, additional ISD models were created: Dick and Carey’s Systems Approach, Esseff and Esseff’s Instructional Development Learning Systems model, and the rapid prototyping and the Interservice Procedures for Instructional Systems Development approaches.

The latter model, IPISD, was developed at Florida State University in 1978 while working with a branch of the U.S. Army to develop an instructional model that became the ADDIC model using the following steps: analyze, design, develop, implement and control. With numerous references to the ADDIE model in industry trade publications and no original source in the literature, Michael Molenda’s research at Indiana University indicates the oft-cited ADDIE model evolved into the umbrella term for ISD based on components and synthesis of previously mentioned models.

The rise of technology enabled learning in the 1990s, constructivism has influenced instructional systems design by using learning ecosystems where learners can interact with each other in real-world environments. Online learning and social media are examples of the additional modalities in which learners can gain new skills and knowledge.

Time Tested, but Limited Time

Though ISD is an established, battle-tested methodology, the learning and development field is often challenged in embracing these tenets. The process is analogous to the blueprint an architect creates for the builder to construct a house. As homeowners, we all have an interest in the effectiveness, efficiency and sustainability of this product. We want the plan for the house to be buildable, the measurements correct and the proper building materials used.

Learning leaders can use the ISD discipline to design, develop and evaluate learning keys to achieve business outcomes and ensure long-term knowledge and skill attainment. Rick Overdorff, a learning and performance professional with the Bank of New York Mellon University was part of the professional military education system for more than 10 years while in the Air Force (editor’s note: one of the authors works for Bank of New York Mellon Corp.). “All curriculum and teaching methodologies were based on the instructional systems design to ensure effective outcomes, and I continue to draw upon that discipline today,” he said.

As the pace of organizations has increased and go-to-market cycle times have decreased, there is a tension between the supply and demand sides of the equation. Further, the lower barriers to entry for individuals to access synchronous and asynchronous learning technology keys has led to an oversimplified view of the process and skills required to design a learning experience. Lastly, there is risk in the perception of the value the ISD process brings to learning and development leaders and the clients they serve.

This last issue of value challenges related to cycle time and technology. On the supply-side, the perception is that easy-to-use course development tools

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or social media can save time and negate the need for expertise in ISD. On the demand-side, the client’s desire for a quick turnaround to meet business and performance requirements can result in skipping critical steps in the ISD process.

While neither side of this equation is fully in the right or wrong, the actions reveal three issues. First, the ISD process may appear to be an amorphous undertaking to organizational clients. Second, with heavy project demands and stakeholders to manage, it is all too easy to forget the most important constituency: the end user. Third, consider the tension between the costs and benefits of properly using ISD for a project.

Stakes Are High

Compared with the challenges Gagné addressed during World War II, the situation is certainly not as dire. However, the stakes are high for learning leaders and the learning and development field at large. With business urgency and technological advances the norm, the effective use of ISD is best served in combination with the artfulness of learning practitioners. The following three recommendations combine the science with the art to advance the collective mission.

Client education. Clients ultimately write the check for the learning that practitioners provide, so educating them about the ISD process is a good first step to enhance this relationship. There is an opportunity to “credentialize” ISD on an equal footing with other well-accepted methodologies such as the project management professional or the continuous improvement model. For example, it is crucial early in the project engagement to take time to review and discuss “the how” of program design with the project team and stakeholders to demystify anything unclear.

Further, learning leaders can use the steps in ADDIE to serve as a process roadmap with stakeholders. In this way, the learning practitioner establishes himself as an expert and creates a common language with stakeholders for an ongoing dialogue. Using the ADDIE process can clarify design and development tasks and serve as the mechanism to build and adhere to a project schedule.

Learner-centered. With the business priority clarified and the learning requirement established, all too often the ultimate learning consumer — the employee — is forgotten. The ISD process can serve to intermediate both content and context for the learner. First, with respect to program content, subject matter experts can be invaluable and challenging. The practice of filling a one-hour course with two hours of content by subject-matter experts who are passionate about their topics is all too common. This is where learning practitioners can go back to the needs assessment and performance-based learning objectives to ensure alignment with the final content. “Building a meaningful learning experience for employees begins with a solid relationship and strong communication with subject-matter experts. This is invaluable when focusing years of knowledge into the learning outcomes an employee seeks,” said Josh Gilliam, instructional designer and learning and development specialist for The Mentor Network.

In addition to ensuring content is relevant, the ISD process is aimed at providing the appropriate context for learning. Even with the best content, the learning environment is of paramount importance to learners’ experiences and to their use of the new knowledge and skills. Aesthetic elements such as the layout and graphics for instructor-led courses, as well as the voiceover for online learning software, bear consideration.

Costs and benefits. Learning theory aside, the elephant in the room when working with clients is the cost-benefit relationship of using ISD to its fullest extent. Business requirements, speed to market and investing in a high-quality learning experience have the potential to be at odds with one another. As part of educating clients, learning practitioners can manage cost concerns by ensuring the milestones associated with the ISD process are scoped and achieved during the project lifecycle. For example, selecting and agreeing on the mix of subject-matter experts who need to contribute and approve content during the assessment and design is one way to control project time-scale. Starting with small scale, audience-specific pilots to test and uncover the learning solution’s efficacy before going wide-scale is another way to mitigate cost and time expenditures.

Learning leaders can make instructional systems design more accessible to clients by painting a picture of the benefits, educating clients and mitigating cost issues. ISD is a backbone of the learning and development field, and while it may feel like there are conflicting agendas in our work, we can use Gagné’s lessons to apply this science in an artful way.

David J. DeFilippo is the chief learning officer for the Bank of New York Mellon Corp., and Lisa M. Shapiro is an instructional systems design consultant. They can be reached at editor@CLOmedia.com.