LEAN LEARNING USING THE ADDIE MODEL

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Printed in the United States of America.

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When you think of “lean,” what comes to mind? Manufacturing? How about hospitals or schools? While lean is predominantly found in manufacturing, it doesn’t end there—it’s a concept that stretches far beyond that industry to all others.

Consider the Stanford Hospital and Clinics. The system has found ways to improve patient outcomes with shorter wait times and to create a better patient experience. Using lean principles, the health system has brought together a multidisciplinary team, engaging and empowering frontline staff to handle issues as they arise. Further, staff have worked across departments to reduce inefficiencies. This has led to a 17 percent reduction in patient wait times, despite increased patient volume.

In another example, the Stanford School of Medicine in 2016 began implementing a lean effort at its Information Resources and Technology (IRT) office. Problem-solving suggestions include undertaking an effort to document computer configurations on networked printers that, despite the project itself being daunting, enable support staff to more effectively and efficiently connect computers to printers and send field technicians to where they needed to be to aid customers.

Using the lean approach, IRT staff can jot down ideas on a sticky note and post them on a visualization board. The lean team then meets and discusses which ideas have merit and are worth moving ahead with.

The results of IRT’s lean approach? Caller satisfaction has increased, with 94 percent of respondents reporting a positive experience. The time it took callers to get through to a help desk technician has also decreased from 112 seconds to 24 seconds within a few months.

How would your clients or leadership feel about such results? How can you as an L&D practitioner make your learning initiatives more efficient and effective? In this issue of TD at Work, I will explore lean learning and how to work across teams for better organizational outcomes. While you may lack depth in knowledge of lean, I will use the ADDIE model, one that is familiar to L&D practitioners, to revisit learning programs for potential increased efficiencies.

In this issue of TD at Work, I will
• explain what the lean methodology is
• detail how you can use lean in the context of learning
• use the ADDIE model along with lean learning tenets.

WHAT IS LEAN LEARNING?

Before delving specifically into lean learning, let’s look at a brief history of the lean methodology and its tenets.

From there, you can see how those principles apply in the context of instructional design.

Lean Methodology

There were sparks of lean principles dating back to the 1400s, followed by Henry Ford’s greater implementation in the 1910s by way of flow production—that is, using production lines to automate and speed up the process. In the 1930s, Toyota implemented lean as we know it today, and it kicked off in full force just after World War II when flow production was paired with a variety of product offerings.

As the Lean Enterprise Institute explains, “Toyota concluded that by right-sizing machines for the actual volume needed, introducing self-monitoring machines to ensure quality, lining the machines up in process sequence, pioneering quick setups so each machine could make small volumes of many part numbers, and having each process step notify the previous step of its current needs for materials, it would be possible to obtain low cost, high variety, high quality, and rapid throughput times to respond to changing customer desires.”

Sounds complicated, doesn’t it?

Let’s boil this down further. The basic premises of any lean initiative are:
• a holistic approach that focuses on the entire process, instead of practices in isolation
• an improvement and optimization of operational effectiveness
• a focus on the effects for the entire organization, not just a single area of the business
• an effort to seek strategies that increase efficiency and eliminate wastefulness of resources (time, dollars).

Lean is about “improving and optimizing your operations,” according to the Lean Learning Center. Lean organizations require less effort, space, capital, and time to produce lower-cost goods and services with fewer defects. While lean processes began in manufacturing and are still what many people think of when they hear “lean,” lean principles apply to every organization, business, and process. Lean is not a tactic or a simple cost-reduction program; rather, it is a way for an entire organization to think and act. Indeed, to implement lean, an appropriate organizational culture is required.

In the spring 2018 issue of the Association for Talent Development’s CTDO magazine, Ben Locwin describes the element of lean—its secret sauce—that makes it work: value stream mapping. “VSMs typically begin with what the customer wants to see, then they work backward to all the steps that occur to achieve that objective.
Irrelevant arguments need not apply because if there is unnecessary work being conducted that doesn't provide value to the customer, it is quite simply just waste.

**Lean Learning Tenets**
When moving from a lean methodology more specifically to lean learning, many in the business world think of reducing training time (for example, hosting training online for shorter periods of time and eliminating travel). Or they may conduct the instruction at a lower cost, which again could mean eliminating travel or facilitating the learning via online instruction, enabling them to scale and repeat this without additional instructor time. But that is oversimplifying things and may be missing a key component of learning: its application.

Instead, as Ajay Pangarkar explained in a session at the 2018 TechKnowledge conference, lean is a mindset that focuses on purposes, processes, and people.

- **Purposes**: What customer problems will the L&D team address to achieve its purpose of prospering? (The term customer could be any internal client or customer.)
- **Processes**: How will L&D assess its value process so it is valuable, capable, available, adequate, flexible, and linked?
- **People**: How will the L&D team evaluate its processes to ensure that the department serves the organization's business purpose and engages its people to actively and continually improve?

I look at the lean mindset in terms of work efficiency, tools, and budget.

**Work efficiently.** This begins with the start of a project and means doing the work early on to ensure a successful learning initiative. It also means managing expectations—that is, getting all stakeholders on the same page at the beginning via a kickoff meeting.

**Use the best tools.** Many people, both in the learning field and elsewhere, will use technology because it's available. That isn't necessarily using the best tools. Invest significant time into making decisions early on, including determining which tools to use for an L&D team's initial analysis of the learning need.

**Stay within budget.** A learning initiative's budget involves many factors, including the time that the L&D team spends. The cheapest way is not necessarily the wisest way to stay within budget. Instead, think about appropriately using resources for strategic purposes.

So, how do you as an L&D practitioner develop this mindset and begin to re-evaluate your learning initiatives for greater efficiency? You can use the ADDIE framework to undertake a lean approach to learning.

**Applying the Lean Mindset to Learning**

**WHY ADDIE?**

The ADDIE—analyze, design, develop, implement, and evaluate—model has its roots in instructional systems design and, despite many arguments to the contrary, is still a relevant method for developing learning programs. The most common misperceptions about ADDIE include that it takes too long and is too restrictive in a learning world where increasingly we are told to get it done quickly, no matter the quality. However, these are all examples of flawed thinking.

ADDIE is intended to make the process flow smoothly through upfront work—an efficiency that is definitely in line with the lean mindset. Because of the upfront work, ADDIE should also help reduce your risk of missing key information that could affect the success of the learning program.

When done well, ADDIE sets you up for success in the future, because it is intended to be an iterative process. Indeed, ADDIE only slows the process down when an L&D practitioner skips something or chooses to finish one of its phases incompletely. When executed well, ADDIE speeds things up through clarity, consistent communication, and consensus, using a focused narrative and approach.

All these points tie in nicely with lean—making the process run smoothly, improving the chances of future success for employees, and providing clarity on what you hope to achieve.
ADDIE Steps
Although many L&D practitioners are familiar with the ADDIE model, let’s review the steps of the process. **Analyze.** When the L&D team receives a request to deliver a learning program to resolve a business need, the analysis phase begins. The learning team embarks on a quest of inquiries and assessment, gathering facts and data to determine the best way to address the need. From this information, the L&D team compiles a report—the needs analysis—about what it found and proposes the overall strategy to be crafted to meet the need. **Design.** Besides the visual aspects that may first come to mind at the mention of the word design, this phase is where the L&D team finalizes the performance objectives, budget, schedule, delivery method, and evaluation strategy. **Develop.** In the development phase, the L&D team—working with subject matter experts and others—gets to work crafting the learning program. **Implement.** Whether e-learning, classroom instruction, or a combination of methods, the learning program is launched during the implementation phase. **Evaluate.** Based on the strategy proposed in the design phase, the L&D team administers an evaluation accordingly: How does it define success as it relates to the learning solution?

Results of the ADDIE Process
Beginning when an L&D team undertakes a learning initiative, whether that is in using the ADDIE approach or another method, team members should be customer-focused.

Instructional designers must always spend time learning as much as possible about what outcomes the key stakeholder expects; what the business needs (why the team is taking on the project); and specific behaviors (such as a skill or knowledge) and business performance that defines success.

In this context, designers must consider their role as providing a solution at the point of need and fitting a solution that directly addresses the need—no more, no less.

As part of their analysis, instructional designers should craft a report with:
- the information they learned about the need for the learning program
- recommendations for the best way to administer the learning content
- a plan for evaluating whether the learning program was a success.

Lean organizations require less effort, space, capital, and time to produce lower-cost goods and services with fewer defects.

An effective learning program delivers content that is both useful and meaningful to the learners—on time and on budget—and provides a benefit to the organization’s bottom line.

This is true whether the learning analysis specifies that the learning program is a brief e-learning course appended to the learning management system or a set of complex content that requires the learning team to deliver a series of blended learning content that the learners complete across three months.

That is why the ADDIE process is an effective process to use in the context of a lean mindset—because the process considers the customer problems or challenges, how L&D will help deliver a solution that can meet this challenge, and how success will be measured. This is all accomplished by working efficiently, using the best tools, and staying within budget.

USING ADDIE FOR LEAN LEARNING
As mentioned earlier, when an organization implements the lean process, the expected output is to produce lower-cost goods and services with fewer defects.

But lean learning, as Pangarkar further explained in his session, is not a learning method or tool—it’s how you apply and use “available resources to deliver and derive learning value.”

The ADDIE model can set you and your L&D team up for success if done correctly and completely. So, let’s walk through the ADDIE steps with lean learning to update our instructional design practice with the intent of delivering results. The ADDIE and Lean Learning diagram below shows how the ADDIE process overlays the lean learning tenets to work together to create lean learning.