See how Caterpillar is building a modern ecosystem with xAPI to train, retain, and develop the future workforce.
Overview & Challenge

A Quick Overview: Caterpillar

Caterpillar, Inc. (CAT) is Fortune 100 corporation that designs, develops, engineers, manufactures, and sells machinery, engines, financial products, and insurance via 172 dealers worldwide. Historically, compliance training materials had been product focused, and dealers were then pushed in the direction of that content.

Eventually, Mike Miller, director of global dealer learning, and his team realized they needed to shift the focus of training materials so they were geared more toward the learner. To make this change, Mike and his team began by asking learners what they needed and how CAT could help them meet those needs.

The Challenge: The future of learning

As CAT began to redefine its new strategy, the global dealer learning team asked themselves what it meant to put the learner first. For Mike, that meant transforming content so people could easily absorb information and gain the skills or knowledge needed to excel at their jobs.

Recently, the approach to both learners and the learning experience has changed because expectations have changed.

Specifically, some people believe a learning experience must be completely digital; however, CAT will never be able to completely abandon instructor-led training (ILT). Mike and his team are responsible for administering different types of training, which include:

- **service technical training** (i.e., how to diagnose, repair, and get machinery/equipment running),
- **sales training** (i.e., how to market and sell a product),
- **leadership training** (i.e., how to lead teams and organizations to help meet goals), and
- **marketing training**, just to name a few.
The Challenge: The future of learning  

Because there’s a vast array of training that covers various topics for specific teams, CAT uses a blended approach that utilizes both ILT and digital content. Although ILT is becoming less common (it only makes up a third of CAT’s global dealer learning initiatives), it’s still important because it focuses on critical areas of employees’ job duties (see Image 1).

For example, people with technical roles must know how to safely perform their duties and properly maintain machines and equipment to ensure safe operation. As a result, face-to-face service technical training is still needed to validate a technician has required skills and knowledge for accreditation.

Image 1: CAT uses a blended learning approach that utilizes both ILT and digital content to cover a vast array of topics for specific teams.
The Approach: Going digital

The digital route has become an integral part of CAT’s long-term learning strategy, including the use of the Experience API (xAPI). In fact, the global dealer learning department’s mission statement focuses on building personalized, high-quality, on-demand learning experiences.

And, by implementing xAPI, CAT can track and analyze learning data, which support this strategy shift while also changing how the team designs and delivers e-learning and content packages.

When trying to help someone learn, the team considers these three vital questions:

1) Where does the learner want to go?
   Align the learner’s desires with strategic goals.

2) What does the learner know?
   Let learners assess themselves against their job roles so they can identify gaps, deficiencies, and open opportunities.

3) How can we develop the individual?
   Once the areas that need improvement are identified, people can learn from experiences using personalized plans. This helps the L&D team ensure people are getting on-the-job experiences and applying new knowledge to their work before receiving certification.

The Approach: Creating a maturity model

In 2013 and 2014, CAT partnered with Bersin-Deloitte to help them align learners’ needs with strategic goals. The outcome was a Learning Organizational Maturity Model (LOMM) that gives employees a more in-depth visualization of how they can move through the ranks, while allowing Mike’s team to create content that is more tailored to the needs of the organization (see Image 2).
When the model was first implemented, CAT was at a Level 1 or 2 in terms of the quality and delivery of its content. CAT has 220 products in their product line, and the global dealer learning team previously used a strategy that was purely product focused. The materials that learners received consisted of e-learning and ILT packages, but there was little opportunity to use the training to advance higher.

Currently, CAT focuses on using content to develop people from the entry/foundational level to the intermediate/advanced level or expert level, in addition to providing e-learning and ILT packages. There’s also a career path that allows the team to show learners the skills, knowledge, and behaviors needed to move up levels.
The Approach: Creating a maturity model (continued)

Using this model, CAT dealers can make goals with specified completion dates and see if they have people with the adequate knowledge to achieve these goals. Dealers also can use this model to find ways to inspire employees to gain new skills and knowledge to open new opportunities. Learners can take assessments against the open opportunities to see how they can move to the next job and salary level. This process makes the path up the organizational chart highly visible, encouraging employees to progress within the organization.

The Solution: Organizational capability development

When Levels 3 and 4 are reached, the content starts to take on an informal nature. This Level 4 is about making sure the learning content is available at any time. CAT wants to be able to build content in tools that allows them to prescribe relevant content as employees are working on certain jobs. Previously, CAT put its content on an LMS and knew if the corresponding exams were passed and how users scored. Currently, content is built in HTML and HTML5, which provides in-depth details about their learners and programs as well as:

- **Digital Insights.** Content and its utilization can now be dissected, so Mike and his team can tell where users clicked and how they navigate through content. It is now possible to compare courses to find the most effective offerings. If users’ experience with content can be understood, then better content can be created in the future.

- **AI Workflow.** With the right insights, content can be provided when it’s needed, preventing employees from searching for it. For example, if an employee is about to join a sales call about a new product, he or she would see content other sales people found helpful and used successfully. AI workflow guarantees that content is recycled and employees are utilizing relevant materials.

- **Key Results.** The main purpose of all learning is to achieve long-term goals. It’s not enough to train employees one time, so it’s important to reinforce learning and help with daily tasks. Additionally, employees are more likely to use content when it is curated and handed to them.
New Capabilities Required

The way organizations build their L&D departments has changed dramatically. Traditionally, data analysis was not an integral part of L&D, but today it’s used to create a better learner experience. Analytics can help the L&D team achieve long-term learning goals. Data analysis can dictate what apps to use, what type of interface to design, and what videos to product. It also influences:

- experience design
- multimedia development
- app development
- user experience/interface design
- experience management/architecture
- branding & communications
- content curation
- tech tools and leadership
- experience leadership

Learning Ecosystem

Originally, the belief was that one tool could do everything, but that often doesn’t reflect instances of informal or blended learning. As a result, CAT now has several tools in their learning ecosystem to deliver different types of learning—including a YouTube app powered by Kaltura, an app for hosting purchased content, and an Inkling app for in-house content creation (see the following image).
CAT & xAPI

CAT is using xAPI to pull data from a variety of its L&D tools, specifically Inkling. xAPI provides insight into what people have read via Inkling’s app, what content has been starred, and who has passed the related exams. These are traditional insights, but now CAT also can see how people are engaging with the Inkling app, how they are consuming content, what path they are taking through the app, and the most popular user activities. Mike and his team can also compare courses and find the most successful offerings (see the following image).
Similar insights are gathered for video content and show the global dealer learning team the most effective types of video content. xAPI reveals what people are watching, and that informs future decisions about what content to create.

For example, if 80% of viewers leave a video after five minutes, the L&D team can assume that shorter videos are more effective than longer ones. If the optimal duration for a video is between two and three minutes, the team can make an impactful video that adheres to that timeframe. Additionally, knowing the number of video views and likes is useful because these statistics help influence future creation and consumption (see the following image).
Communication, Collaboration, & Contributions

Gathering these valuable insights is made possible by putting learners’ needs first. Communicating with learners is important because it gets them involved in the learning process. In CAT’s situation, learners have access to every active tool, such as its video channel—which isn’t just about video consumption. Employees have the option to create videos about issues they are knowledgeable about and post them for everyone to watch. If user-generated videos have high consumption rates, the global dealer learner team can identify gaps in their available training content.

In other words, when L&D teams turn the learning process into a collaborative relationship, learning becomes more effective.

Recommended Resources

xAPI xAPRIL
See more of Caterpillar’s xAPI case study at xAPIxAPRIL.com, including a recorded webinar and Q&A with Mike Miller. And don’t stop there—be sure to check out even more stories from Verizon, Behr Process, Quicken Loans, and PwC!

xAPI xPLAINED
What’s xAPI? Learn more about the Experience API in our handy eGuide that covers the basics, including how xAPI is different from SCORM and how to get started.